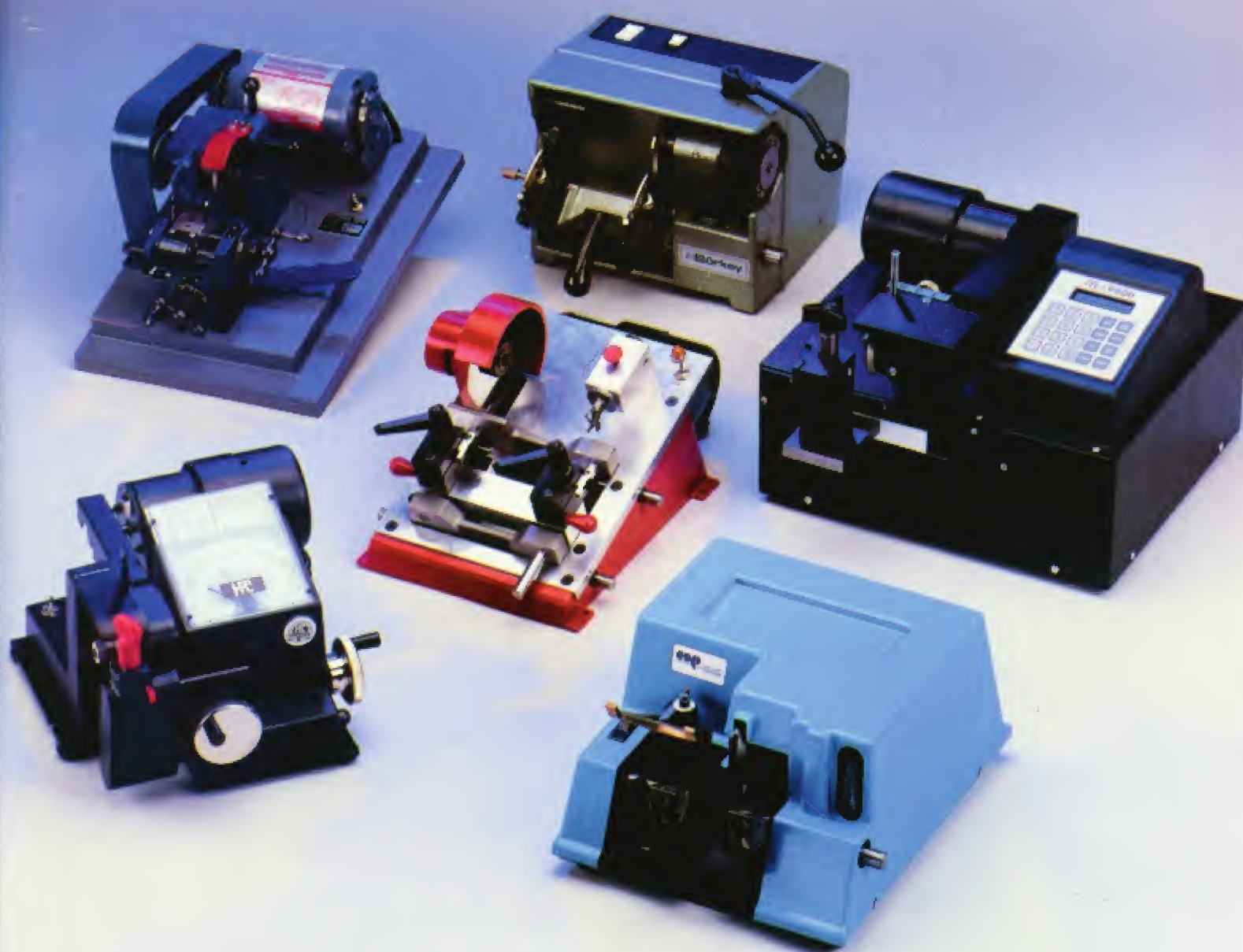


August 1989

The National Locksmith®



Key Machines

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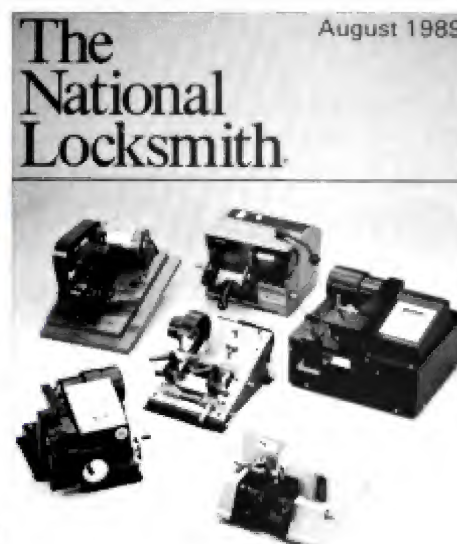
No, Jack Roberts wasn't around 100 years ago. But he does tell us what locksmiths were doing then.

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Key machines featured on the cover courtesy of the following companies: DiMark International, ESP Corp., Framon Mfg., HPC, Inc., ITL Tools and Precision Products.

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Commentary

Ann Landers Boosts Locksmiths

I was very honored on July 1, 1989 when Ann Landers reprinted an edited version of my April Commentary called "I Am A Locksmith." First, I was honored that our own readers enjoyed my Commentary. Second, I hope that national exposure through Ann Landers will help the cause of locksmithing.

Reprinted here is the item that Ann Landers published in hundreds of newspapers throughout the country. Courtesy of Ann Landers, Creators and the Los Angeles Times Syndicates.



**Ann
Landers**

Dear Ann Landers:

You have befriended waiters, waitresses, police officers, firemen, teachers, doctors, lawyers, bus drivers, electricians, postmen, and chamber-maids. Now will you please do something for the locksmith? This piece appeared in The National Locksmith Magazine. The editor is Marc Goldberg.

Longtime Reader in Carbondale, IL

Dear Carb: With pleasure. Here it is.

I AM A LOCKSMITH

Too often I see you after a traumatic burglary, when you are scared and upset. You call me to improve your security when it is too late. Your home is a shambles and your property has been stolen. Your door locks were old, and the door frame was weak.

Entering your home was easy.

Sometimes you call me when your keys are locked in your car.

You are frustrated by the inconvenience and expense. But when you call, I come right over and resolve your problem.

I am available to cut you a new key when the one you bought at the hardware store doesn't fit. I'll install a new deadbolt when yours fails. You bought a cheap import and were angry when no replacement parts were available.

I'm also a psychologist. Often, when you call me, you have had some sort of trouble. I know what to say to calm you down. People need special handling when they are upset.

I take my profession seriously. I know from experience that only after a tragedy do people realize that a locking doorknob is not enough protection. How I wish you had called me before someone ripped off your doorknob with a pipe wrench.

Sickness is the enemy of the doctor. The criminal is the enemy of the locksmith. Your security is a sacred trust to me. I am a locksmith. You can depend on me.

Well folks, there it is. Kind of makes your eyes fill up with tears, doesn't it? I would certainly like to thank the individual who sent my Commentary to Ann Landers. And I would like to thank the leading lady of advice columnists for helping to give publicity to the locksmith. We need all the help we can get!



Marc Goldberg
Editor/Publisher

August 5

Letters

Comments, Suggestions and Criticisms

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and lengths. Please address your comments, praise, or criticism to: Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Reader Objects To Competitor's Practice

I know that for a magazine to print something about their competitor can be a hard thing to do, but this subject needs to be addressed. It is about another magazine. They have chosen to send their magazine to hardware stores across the country, FREE. Then after some months the hardware stores are offered subscriptions at half price. It greatly upsets me to know that the local "Joe" at the hardware store can read the same technical articles, trade tips and advertisements intended for locksmiths only. This prompted me to cancel my long time subscription to the other publication. My hat's off to your magazine for not stooping to such practices.

David Sohngen
Ohio

Hardware Stores Are Not Locksmiths

I have actively engaged in locksmithing for 19 years and during that time have been a subscriber to yours and the other major publication for our industry. Both magazines contain good information for the locksmith and are used on almost a daily basis for some type of reference.

I recently found out that the other magazine has been sending free copies to hardware stores and now offers a subscription to hardware stores at half price. I am enclosing a copy of a flier which documents what I am saying.

I don't think this is right! I have two reasons. First, I have always thought that both magazines were for locksmiths and not for the general public. Second, I don't know why they should get half price and I have to pay full price. We compete with hardware stores for retail sales and now the other magazine may help them to compete for our services. I do hope that *The National Locksmith* does not resort to this type of scheme to increase subscriptions, but keeps on printing a locksmith magazine for locksmiths only.

Glen Fessenden
Ohio

Editor's Note: The National Locksmith has always had a few hardware store subscribers. That is because a few hardware stores around the country do have an actual locksmith on staff.

However, we do not actively promote our magazine to the hardware stores. Most such stores do not have locksmiths on staff. This has been and will remain a magazine for locksmiths and security professionals.

Although some questionable types do sometimes slip between the cracks, this is not a magazine for hardware store clerks.

We agree that locksmith magazines should not be offered to large groups of hardware stores.

Locksmith Questions Fireman Opening

In the June issue of *The National Locksmith* on page 82, the title is "Can You Top This?"

Well here goes one for the books. I was called out to open a 1984 Lincoln Towne Car which had the keys locked in the ignition and it was running. I went to the side of the car, to the rear door because it had vertical locks.

I started to open the door and the owner said after a couple of minutes

Continued on page 8

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that he had called the fire department because the car was "beginning to smoke a little." Up the road came two pieces of fire equipment and they stopped near the car. One of the firemen rushed over to the car with a Slim Jim and I said you cannot open it with that because it is all electric. He turned around to the owner and said do you want to get in quickly and the owner answered "yes." The fireman said I have just the tool on the back of the truck which he proceeded to get.

He returned with a hammer and broke the wing window and the owner looked at me and said "Who is going to pay for this?" and I told him "Not me." He said, "Someone has to pay for this damage." I said to the firemen, "No wonder there is so much damage when you fight fires because all you want is to destroy something." I turned around to the owner and said, "Next time you want a locksmith, go to the meat market or store because they know as much about opening cars as that fireman."

Joseph Keith
Massachusetts

Locksmith Frowns On Distributor Competition

Today is the ninth of June 1989, and I opened up my store at 8:45. Shortly thereafter my phone rang. It was a lady asking for me by name. She said that she was with a local manufacturer of ships and she was looking for a US Lock. She then informed me that she had called US Lock, a large national distributor and that they told her to call me because I was their dealer in the New Orleans area.

When was the last time your wholesalers did the same for you! It is a real pleasure in these hard economic times to find out that your wholesaler is not in competition with you. I have talked to many locksmiths across the country and find this to be the case. However, I think it is about time that we locksmiths put our supplier on notice that we will no longer tolerate this "cut throat supplier behavior."

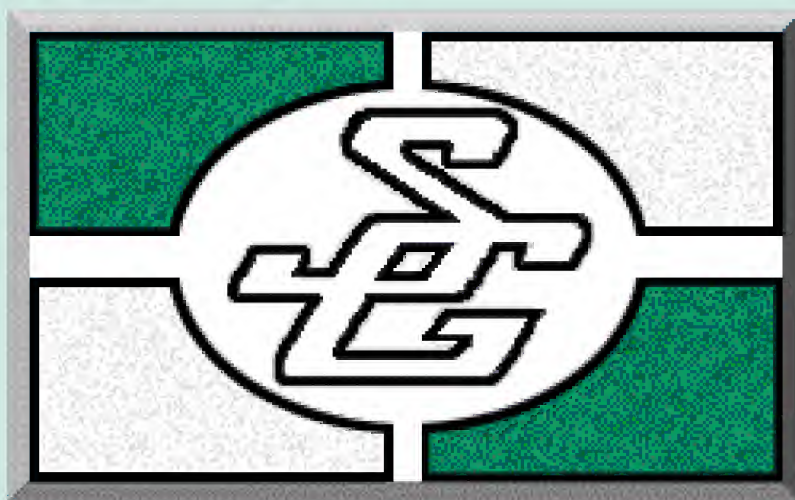
When was the last time you were called out to repair panic hardware on a building, quoted a price for the job, and got a very funny look on your cus-

tomers face? If you were able to get him to explain the problem to you, this is probably what happened: He took you to his office and pulled out one of your distributors catalogs and said I can buy these panic bars from this company for a lot less than you have quoted me.

What do you do? At this time do you explain to him that this company is your supplier and that the price he is giving you is the same price you would pay for the item. Then would you explain to him that a good business man must have mark up on items he sells. Chances are the above does not happen. The customer simply says thank you for the quote, I must check this price out with management, and you never hear from this account again. Why? Because he thinks that you are a crook trying to overcharge him for the job. What he does do is calls your supplier, orders the hardware, and has his handyman install it.

The next time you walk into your distributor he wants to know why you are having a tough time paying his bills. When will the distributors learn that

Continued on page 100



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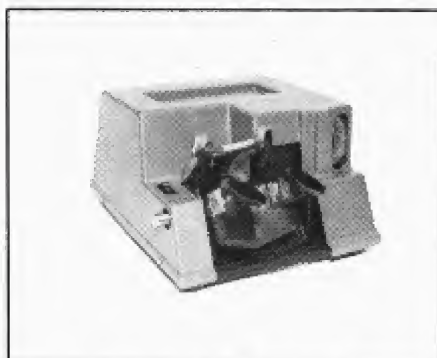
First Prize



HPC Bravo

The two speed motor cuts brass or steel. The 4-way vise jaws securely hold almost any key. A micrometer style depth adjustment and precise shoulder gauging cut the most accurate keys possible.

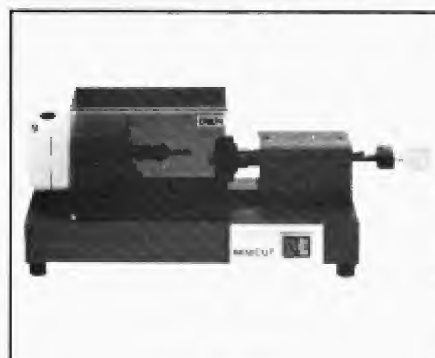
Second Prize



ESP 990 Manual

This machine features double-sided reversible jaws that eliminate the need for adaptors. The carriage is fixed to the sliding carriage shaft resulting in reduced play and less shaft wear.

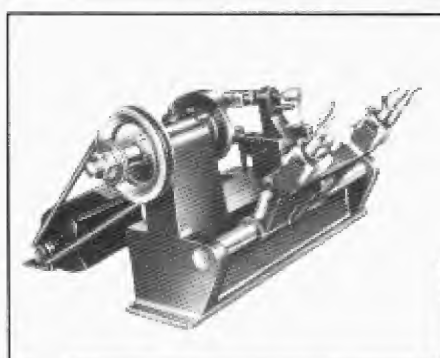
Third Prize



Ilco KD94

Cuts the 1137 tubular key, brass or steel accurately and quickly. Features include large chuck to hold standard size key heads, easily adjustable.

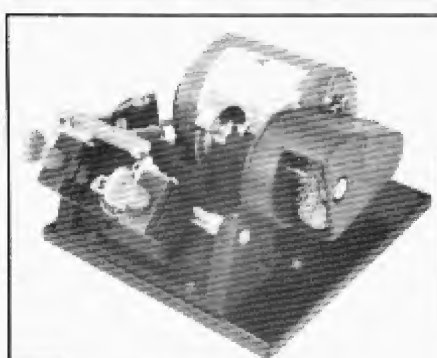
Fourth Prize



Belsaw 200

Duplicate, cut by code, cut flat steel keys. Complete machine with motor, three cutters, guides, and instructions. Built-in micrometer.

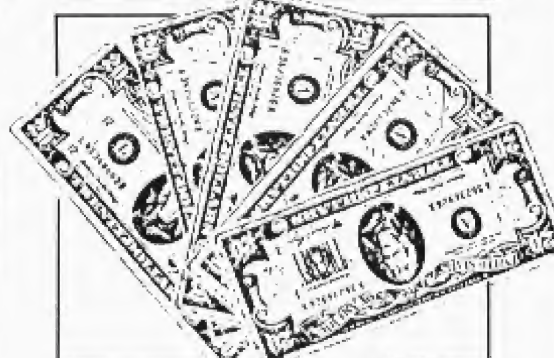
Fifth Prize



HPC 9160

Ideal for large key duplication. Equipped with fine double-sided jaws ensuring accurate cutting with little or no wasted blanks.

Sixth Prize

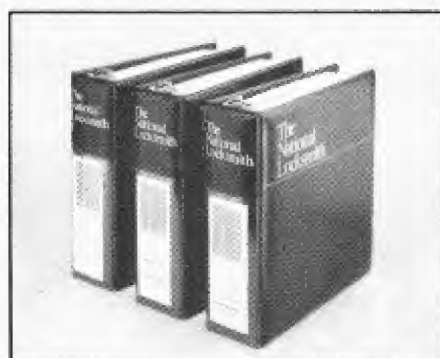


\$150 Cash

Everyone can use a few extra dollars! This prize will brighten your day...and fatten your wallet.

Code Books From The National Locksmith

Seventh Prize



General Code Book Set (NGCB)

These three books contain 450,000 codes covering domestic lock and automobile codes.

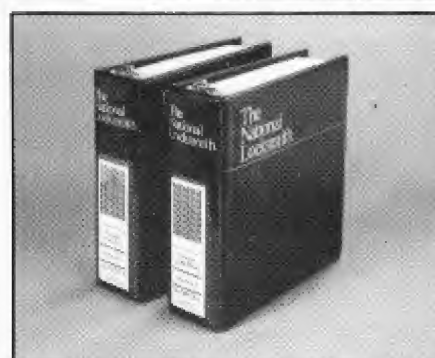
Eighth Prize



Padlock Code Book Set (NPCB)

These three volumes offer 462,000 codes covering Dudley, American (Junkunc), Master and Yale.

Ninth Prize



Foreign Car Code Book Set (NFCB)

This two volume set holds 432,000 codes for the complete variety of foreign cars, from Alpha Romeo to Yugo.

Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Robert Sieveking

This month's Technitips brings you a new selection of ingenious and innovative solutions to a few of the problems that we all live with from day to day. Congratulations to all those that have had their tips printed this month. Thank you for sharing some of your best ideas with the trade. To all of you that are still waiting until just the right moment to release your tip, "wait no longer." Get those ideas in the mail. This year's contest is half over this month. Be sure to include drawings and photos where necessary.

This year's manipulation contest was held in June, at the SAVTA convention in Kentucky. Special congratulations to the top three manipulators this year. They are: Phil Shearer with a time of 45:07, Ken Dunkel with a time of 46:59 and Dave Wells with a third place time of 1:59:56. Most respectable times, all. For the first time, factory

fresh locks were used in the contest. The new locks were graciously furnished for this year's contest by Sargent & Greenleaf and LaGard.

August's Best Tip

This Tip is for an easy method of making a tubular key decoder. This decoder was made on a Foley-Belsaw 200 machine, but it could just as easily have been made on the HPC 1200 machine, by using the micrometer card and .055" wide slotter.

The first step is to place two Ilco #1221AL flat steel blanks in the machine with the duplicating cutter and guide. Make one pass across the key, about .005" deep, to level the top of the blank. Then replace the duplicating cutter and guide with the flat steel cutter and guide.

Start the key at the tip of the key and work toward the bow. (The cutter width used for this key was .055".) Move in .110" and make the first cut .016" deep. This will leave a pin at the tip of the key, .055" wide and .016" high. (See illustration 1.) By holding the key beside a tubular

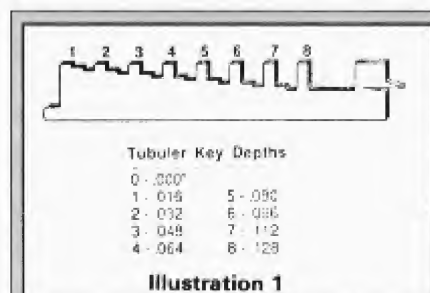


Illustration 1

key cut, you will be able to measure the depth of a "#1" cut in the tubular key. The cuts in tubular keys are measured from the tip of the key to the bottom of the cut as shown in illustration two.

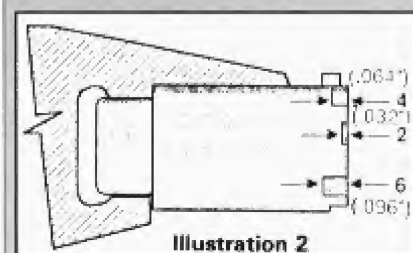


Illustration 2

Move over .055" and make a cut .032" deep. Move over .110" and make another cut .032" deep. This will leave a pin .055" wide and .032" high to measure #2 cuts in the tubular key.

How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to *The National Locksmith*. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips' Editor, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will not be eligible! So get busy and send in your tips today! You may win cash, merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1989? Enter today! It's a lot easier than you think!

Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker, decal and patch. Plus you are now eligible for the really big prizes!

Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal, patch and a Locksmith Cap. Plus, you may win one of the great prizes pictured above.

Move over .055" and make a cut .048" deep. Move over .110" and make a second cut .048" deep to complete the third pin. This will leave a pin .055" wide and .048" high, that will measure #3 cuts in Ace keys.

Continue cutting the key until you have cut all eight pins. Use the dimensions given in illustration one to gauge the height of the pins (depth of the cut). De-bur the key and you will have a good tool for

measuring and decoding tubular keys. Use number stamps on the blade of the key to label the measuring pins.

This little project only takes a few minutes to complete, but if you need a key decoder for tubular keys, this is a nice project. Read the micrometer carefully, to make the key as accurate as possible.

Arnold Heidemann
Illinois

This Technitip is one you will have to try, to believe. This is a safe tool that will turn any rotary hammer (hammer drill) into an *automatic* dead blow hammer, hopefully saving considerable time opening safes. The tool was made from the clamp screw portion of an old "C" clamp. Measure back about 3" from the swivel foot, and cut the screw off with a hacksaw. Leave the swivel foot in tact. Grind the screw portion as shown in illustration three, leaving three flats, to fit into the hammer drill chuck. Glue a 1/4" rubber pad onto the swivel foot to prevent damage to the safe door.



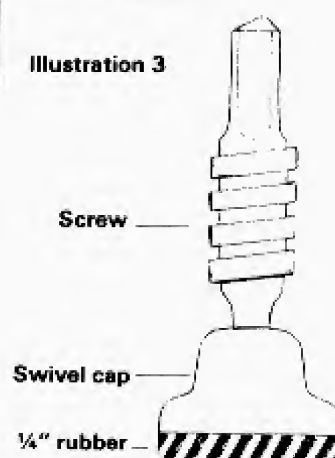
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Illustration 3



Install the tool into your hammer drill and place the rubber foot against the door of a safe. By applying pressure to the drill, you can regulate the amount of force applied to the hammer. The rubber based cap will remain stationary as the screw swivels and applies a hammering vibration to the door, which will give you all the vibration you need to move the tumblers of most safe locks. The firmer the force applied to the drill, the more vibration will be transmitted to the lock.

I've opened several older safes using this tool. They were all opened in a very short time, without damage. This method will probably not replace manipulation, and is not quite as reliable as penetration, but the last safe I opened with this tool was a Meilink Home Deposit Safe, with an Eagle pin change lock. It was vibrated open in 1 1/2 minutes.

Anthony De Franco
New Jersey

Editor's Note: If anyone else uses this technique, I would be anxious to hear about the results, both positive and negative.

My Technitip comes from picking many Japanese auto locks. Being stationed in Japan, I have had the opportunity to open quite a number of Japanese autos. I believe that picking the lock projects a more professional image than using a wedge and Slim Jim-type tool. If the customer sees you picking the lock, as a professional, he will be less tempted to try it himself. If a customer sees you open a car with a simple wire tool or Slim Jim, he is more likely to try to imitate your actions the next time he or someone else is locked out.

My special picking technique is rather simple, but effective. The first point of lock picking is proper use of the tension wrench. The tension wrench should be wedged in the lock plug to give "evenly dispersed tension." The problem with some auto locks is that there are wafers at the top and bottom of the plug. This prevents, or at least makes it impractical to insert a tension wrench into the keyway of the plug. You must then use the spring door and shutter plate to apply turning tension to the lock plug. This is a marginal option, but there is no other choice.

To apply tension to the plug, use two tension wrenches in the spring door. Place the first tension tool into the top portion of the keyway, using your index or middle finger to hold it in place. Place the second tension tool at the bottom of the keyway, using your thumb to apply turning tension. This leaves your other hand free to pick the wafers.

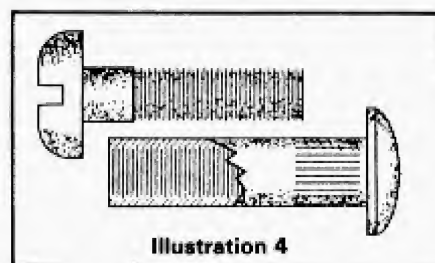
Because heavy tension can bend the small spring doors, and the spring door tension has a tendency to cause the tension tool to be pushed out of the keyway, I have alleviated the problem by coating the small bend in the tension tool with liquid rubber. This adds thickness to the tip of the tool and reduces the stress on the shutter plate, without allowing the tool to be ejected by the force of the spring door.

A second picking tip for the wafer type lock is to double the size of the standard snake or diamond pick by gluing two picks together. This increases the surface contact of the pick, allowing it to act more as a tryout or rocker type pick. Two picks can be bonded together or riveted together to give this effect.

Andrew Nogaj
Japan

This tip involves a novel method of opening a sliding glass door when there is no outside access to release the lock.

The other day, I was called out by a rather frantic customer, that had locked herself out of the house. The only access we had to the house, that was not secured from the inside, was a sliding glass door. An attempt to lift the door out of the track failed because of head blocks in the upper track. The head blocks prevented the door from being lifted far enough to clear the lower track. The sliding door lock was a latch type lock, with no outside



access. It was held to the door by sex bolts, like those shown in illustration four.

My solution to this lockout was to drill through the mushroom-shaped head of the sex bolts, and drop the lock



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away from the inside of the door. By carefully center punching the outside head of the sex bolts, and drilling through the attachment screws, the lock was removed from the inside of the door and the door was free to open. There was no damage to the door or the lock, aside from the drilled sex bolts, that were easily replaced. Some hardware stores may stock these fasteners as screen door bolts instead of sex bolts, but you should have no difficulty finding suitable replacements.

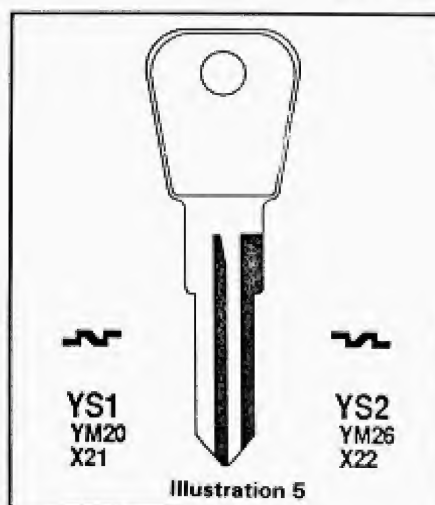
Clayton Guidry
Louisiana

This Technitip is for installing the sheet metal screws in the steering wheel, that hold the trim pad or horn button in place. These screws can sometimes be very hard to start in an upside-down position, without a magnetic socket. My solution to this dilemma is to insert the screws through the proper holes in the steering wheel, and start them through a small piece of cardboard. The screws will now stay in place while the trim pad is positioned, and the screws started.

C. Vaillant
Rhode Island

Here is a short Technitip for anyone having difficulty finding the correct key for a WOLO steering wheel lock. The WOLO wheel lock uses a Taylor X22 (ILCO YS2) blank. (See illustration 5.) Note, the key must be cut before it will fully enter the lock.

Gerald Weldin
Kentucky

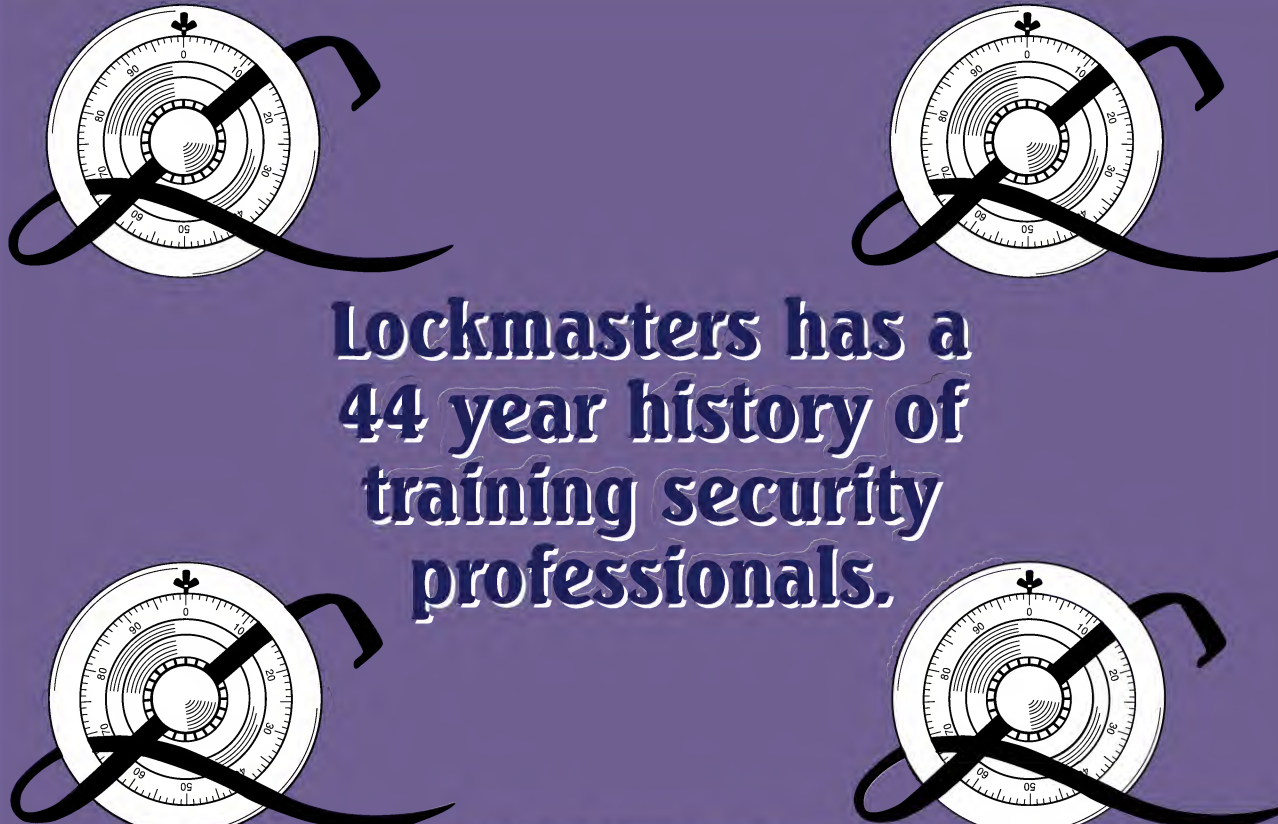


This Technitip is for the replacement of an older Yale dial, but the principle is the same regardless of the manufacturer of the lock. The other day, I had the opportunity to replace an older Yale safe lock dial that had been badly scarred and worn. Most of the numbers were either completely worn away or barely visible, but the lock was still in fine working order.

Though I had a good replacement dial of the proper size and style for the lock, there was a major difference in the keying of the spindle, which caused the calibrations of the hand change wheels to be thrown off. When the lock was set to a particular combination, the wheel gates lined up properly, but not at the fence where they belonged. My solution to this problem is the secret of this Technitip.

The first step is to remove the wheel pack and set all the wheels to the same number. For this example, we will use the number 60. Choose a number that is well away from the drop-in. Assemble the lock and dial right four times to "60." This will bring all the wheel gates together, and position them at some place within the lock.

Remove the wheel pack, to estimate



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the position of the wheel gates with reference to the fence. This should tell you approximately how many numbers the gates are shifted away from the fence.

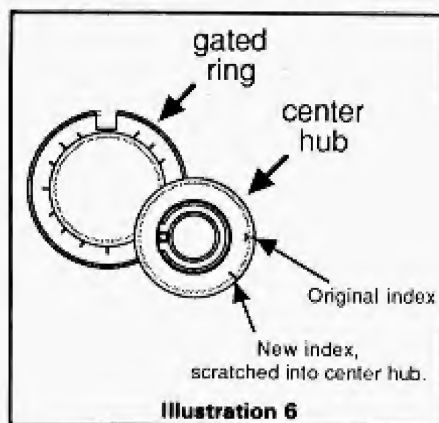
Re-assemble the wheel pack into the lock and rotate the dial four times right to the adjusted combination number. If the gates were shifted right of the fence, you must add to the test number to move the gates back to the left. If the gates are shifted to the left of the fence, subtract from the test number to move the gates around right.

Again remove the wheel pack to see the position of the gates with reference to the fence. The gates should be closer to the location of the fence than before. Re-assemble the lock and continue to add or subtract from the test number, one number at a time, until the gates are brought under the fence.

You do not need to remove the wheel pack each time. Dial right to the first test number, then back to the drop-in. Dial right to the second number and then back to the drop-in. Dial right to the third and so on until the lock operates. Don't settle on the first number that operates the lock. Test the lock a few numbers further to find the number

that operates the lock the *best*. We found that the number "75" allowed the lock to operate the best.

Remove and disassemble the wheel pack. At the number "75" on each wheel, scratch a new index mark on the center hub. (See illustration 6.) The



new wheel indexes will allow you to set a new combination, using the manufacturers calibrations on the gated outer ring.

The only outward evidence of the change, is the location of the last number or drop-in. The drop-in will be unavoidably shifted away from its original position.

William O'Dwyer
Connecticut

This Technitip is for saving the factory pins and original cut keys that every lock shop ends up with as they recombine locks to match other locks in the course of doing business each day. By saving the plastic containers that LAB pins come in, you will find that the containers are just the right size to hold a pair of keys and the pins for most locks. When a customer needs a lock of the same brand rekeyed, you can open the container and you will have two original keys and all the bottom pins to change one lock. This allows you to rekey the lock with original pins and keys, at no real cost to you.

I hope this tip is published and helps another locksmith to save a little on the cost of rekeying, and be just a little more profitable.

Thomas Rucker
Ohio

NATIONAL

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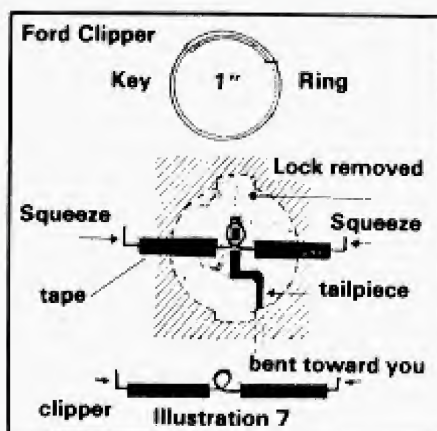
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After making keys for a number of the new Fords, that use the 10 cut high security keys, I've developed a little tool that will save you from losing the lock linkage down the door while the lock is removed.

In the process of making keys for the 10 cut Ford, it is necessary to first make a key for the door lock. The retaining clip, located in the edge of the door, is easy enough to remove, but when the lock is removed from the linkage, the linkage can sometimes fall into the door, which requires removal of the door trim to re-connect. This Technitip is for a little wire tool to hold the linkage while the lock is removed from the door.

Illustration seven shows the tool clipped over the linkage in the door. The "clipper" tool is made from a one



inch give away key ring and a little electrical tape. The electrical tape was added to eliminate any possibility of scratching the auto.

Steven Mathena
Tennessee

My tip has to do with servicing G.M. door and trunk locks. Often they become corroded due to lack of use. The lock cylinder and housing become pitted and corroded, preventing the wafers from operating freely or the cylinder from turning in the housing.

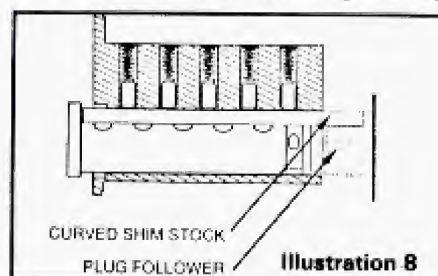
Removing the corrosion from the cylinder and housing after disassembly is a snap if you use a regular battery post cleaner. The round wire socket brush will remove any corrosion from inside of the housing, and the post cleaner will remove corrosion from the cylinder. If the wafers are corroded in the cylinder, replace them. I prefer to replace the wafers and springs with original parts.

Though it is sometimes better to replace these locks than to spend a lot of time on them, there are times when you have to repair what you have because replacement parts are not readily available.

Jim Adcock
Pennsylvania

This tip concerns a solution to the problem of not having the correct plug follower for certain types of lock cylinders. Sometimes you will find that the end of the plug follower is not shaped properly to prevent the top pins from falling as the plug is followed out of the cylinder. This problem can make rekeying these cylinders more difficult by making it necessary to reload the top pins, lost during disassembly.

To speed up the job, and prevent the top pins from falling between the end of the plug and the plug follower, push a piece of curved shim stock through the cylinder, slightly ahead of the plug follower, as you see in illustration eight. The shim will be on top of the plug and bridge the gap to the plug follower. The shim carries up the top



pins, preventing them from falling into holes in the plug or voids between the plug and plug follower. Leave the shim in the cylinder, and use it to help replace the plug, without losing a pin.

Richard Bess
Pennsylvania

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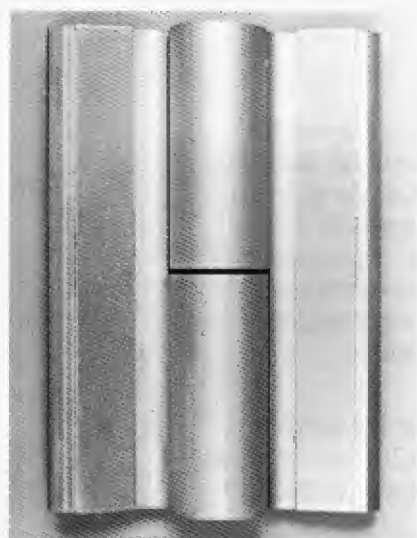
Newsmakers

New Products and Industry News

Specialty Hardware Offers EZ-5 Hinge Kit

Specialty Hardware Products, Inc. manufactures an EZ-5 hinge kit that solves common door problems caused by other types of hinges, such as sagging, dragging, and warping, plus prevents future problems.

Ideal for continuous, heavy use doors, the hinges are streamlined and modern in appearance, thus enhancing the looks of any door. Choose from a wide variety of finishes and colors. Matching cover strips are included for a professional, finished look.



Dexter by Master's New 'Builder's Key'

To alleviate new homeowners' fears that contractors may have working keys for a home after construction is completed, Dexter by Master Lock has developed a specially designed builder's key and cylinder. It's very cost effective and convenient for builders because they don't have to rekey or replace exterior door hardware before homeowners move in.

The Dexter construction cylinder features a donut-shaped wafer placed between the depth and driver pins in either the fifth or sixth column of a five or six-pin cylinder unit, respectively.

A builder's or contractor's key is cut so that it will open the doors until a tenant's key is inserted. Once a tenant's key is inserted, the construction keys can no longer be used to unlock the homeowner's doors.

The builder's key is available for Dexter locksets featuring five and six-pin cylinders and all its keyways, including the DC keyway. The DC keyway is key compatible with Schlage, Baldwin and other "C" type keyway brands.

Code-Alarm Introduces Two Wire Remote Alarm

Code-Alarm, Inc. has introduced the Scorpion alarm as the Company's first do-it-yourself, two wire remote vehicle security system at the Consumer Electronic Show. The simple, user friendly, yet very effective design of the Scorpion alarm allows all operation to be remote controlled from the transmitter.



The unit is built into one compact housing design and requires no extra modules to connect. It is micro-processor based for improved security and ease of operation. The 125db Scorpion alarm also features an adjustable on-board shock sensor to detect blows to the vehicle's battery voltage; remote arm/disarm and remote panic. All the necessary hardware required for installation is included.



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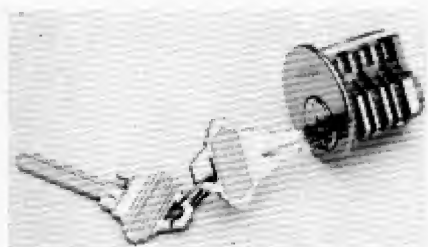
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Schlage Presents Primus High Security Cylinder

Schlage has introduced the Primus Security System for heavy duty residential and commercial applications where strict key control is a necessity.

This product can upgrade an existing key system while avoiding the costly and time consuming process of replacing locks and keys. An advanced cylinder design coupled with a unique keyblank accountability program make Primus an attractive security system for the end user.

In addition to operating as a standard pin tumbler cylinder, Primus utilizes an additional locking mechanism. Each cylinder is machined to accept a "side bar" and a set of five "finger pins." The finger pins, which come in six angular configurations are aligned by a patented milling on the side of the key which allow the side bar to retract and create an additional shear line within the cylinder. The side-bar and finger pins, in conjunction with Schlage's conventional six pin keying system, provide two independent locking mechanisms that are operated simultaneously by a specially designed Primus key.



Wico Becomes Abloy Service Center

Wico Distribution Corporation, Niles, Illinois has been appointed a factory authorized service center for all Abloy security locks. The Abloy "A", "B", and "CAK" keyways are now assembled by Wico using all original factory parts. Abloy's patented "CAK" keyway system allows Wico to restrict each "CAK" key code to one customer. Wico will not assign the same key code to anyone else without the original customers written and notarized release.

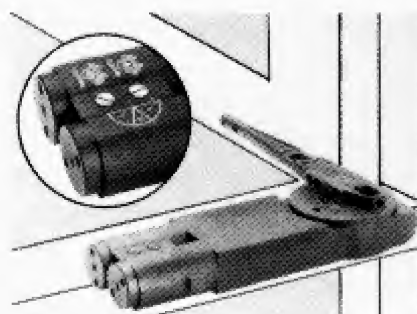
Wico also assembles Illinois, Medeco, Ace, Flex-Ace, and Gem locks and manufactures a complete line of Roto-Top safes.

Dual-Valve Closers Added by IDC

The "International" selection of commercial hydraulic door controls from International Door Closers, has been further enhanced by adding a new line of dual-valve door closers. The new Series 100 Overhead Concealed door closers with dual-valve control are now available for immediate shipment.

New parts and accessories include the 3010-JO offset arm and slide channel, as well as the 3010-G floor mount

and 3010-GE threshold mount adjustable bottom pivot sets for center-hung doors.



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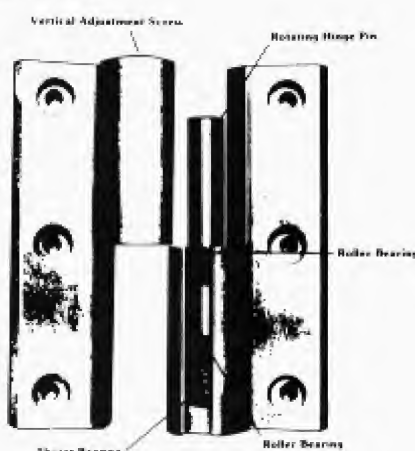
[Click here for more information](#)

Trans-Atlantic's New Heavy Duty Hinge Kit

Trans-Atlantic Company announces the addition of their Super - XH5 heavy duty, no sag hinge kit for flush or $\frac{1}{8}$ " offset doors. This hinge corrects or prevents door sagging. It is easy to install and simple to adjust. It provides tamperproof security, is fully adjustable, easy to install and will easily swing doors as heavy as 500 pounds.

This is an ideal replacement hinge kit for storefront doors and many types of frequently used heavy commercial doors. A special five year guarantee is included. Should this hinge fail when properly installed in accordance with our instructions within a five year

period, Trans-Atlantic will replace it at no charge.



Free Keys With ESP Machine Purchase

ESP Corporation is celebrating August as "Key Machine Month" with a special promotion on its Model 990 and Model 660 Key Duplicating Machines.

For this special promotion, any locksmith who buys a #990 or #660 Key Machine during August from a participating distributor will be eligible to receive 500 free keys directly from ESP.

The machines are shipped to your distributor with special order forms to be completed and returned directly to ESP with the warranty registration card. Upon receipt, ESP will ship out your selection of free keys.

This special promotion runs from August 1 through August 31, 1989, and the free keys must be redeemed by September 30, 1989.

Buddy's P.O.P. Display Helps Sell Wallsafes

Buddy Products of Chicago, Illinois, has developed a new 3-dimensional point of purchase display for their popular wallsafe.

Loaded with attention-getting features, this heavy duty freestanding display showcases the actual Wallsafe so customers can try the combination lock, open the piano hinged door and look inside the storage compartment.



The top of the display is done in beautiful full color, showing the Wallsafe's important selling points, and a convenient "take one" tear-off pad with "easy installation" instructions.

Each display measures 18 $\frac{1}{4}$ "W x 10"D x 20"H and is shipped with every carton of 4 Wallsafes (Stock #3101).

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Servicing U-Change Locks

"The first time I was called on by a chain shoe store to work on one of these cylinders I didn't know what to do. Now I can do this job correctly."



by Dale Libby

First came the ICOR (Interchangeable Core) and now enter the U-Change cylinder. The common denominator for all these cylinders is their quick-change abilities.

I and other friends work for large chain restaurants which use the Best/Falcon system. Usually a district manager

will give me a box of cylinders to rekey to their master and core key system in sets of four. In about a month after doing those, I get another batch of cylinders to do over again. This is fine, but the real gravy part of doing these cylinders is going out on the job and charging a trip charge or service call plus the rekeying. Now all the district managers are doing the rekeying. In conjunction with this, the district managers are doing the safe combination changing too, with their workbooks and changing tools.

The next entrant into the self-locksmithing market is the U-Change lock cylinder from U-Change Lock Industries,

Route 6, Box 98-B, Oklahoma City, OK 73119, (405) 745-3861. Their promotion says, "Why pay locksmiths high prices, when your district managers and store employees (managers) can change keys on your front doors without special knowledge or tools, in just a matter of minutes!" That is true, but the rub is that the store managers and employees mess, up and here is where we can shine and show them that a professional can do the work better and correctly the first time.

I am not pushing the U-Change cylinder, but giving an easy alternative to servicing and picking it. There are a couple of key areas where the inexper-



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perienced managers tend to make mistakes.

The U-Change cylinder has a normal keyway slot with the addition of a change key slot at approximately 9 o'clock at right angles to the keyway. The keyway comes in several special keyways that are only available from the factory, but trying different stock keyway sections, especially master key sections, will allow you to duplicate a customer's key if that becomes necessary. The new keys are supplied by U-Change in envelopes.

I will now quote briefly from the U-Change direction sheet and then explain where customers have trouble changing keys.

1. Insert the key you are presently using into the cylinder.
2. Rotate the key 90 degrees ($\frac{1}{4}$ turn) clockwise. The change tool slot will be perpendicular to the lettering on the face of the cylinder. (It will form a "T" configuration.)
3. Insert the change tool in the change tool slot on the front of the cylinder. There is only one position where the cylinder will accept the change tool, so you may have to rotate the key slightly to find the correct position where

the change tool slot is perpendicular. Important, do not attempt to force the change tool into the cylinder. It will insert easily when the cylinder is properly positioned.

4. With the change tool in place, remove the existing key on which the cylinder was set. Check the change tool again to be sure it is fully inserted and now take the new key to which the cylinder is to be set on and insert and pull it out several times. Now insert the key fully, and pull out the change tool.

5. Rotate the new key back to the original starting position. You have now rekeyed your lock cylinder.

Easy enough, right? The problem is that sometimes after changing the cylinders to a new key, the new key will *not* work, and the old key will *not* work. Most times the door is in the open position or there is a thumbturn on the inside, so servicing is easy.

The first time I was called on by a large volume shoe store chain to do work on one of these cylinders, I did not know what to do. I removed the cylinder and changed it for a regular

mortise cylinder with Yale keys. I told the store manager that I would work on the lock and put it back into operating order.

After taking the cylinder apart by shimming, I eventually returned it to the store manager in a small box full of springs, pins, and other less identifiable parts, stating that they should send it to the manufacturer to be repaired. Now after working on several of these, I can put them back together correctly. With the new servicing technique, disassembly is never indicated.

The two areas where managers most often have trouble are in the fifth position of the key. Their mistakes are in either not having the change key tool inserted fully into the lock, or not having the new key fully inserted into the lock when changing the key set up. When doing this, either way, the last or fifth position will not be changed, or changed to the incorrect depth that does *not* conform to the new key, thus the cylinder has changed itself to a new, non-existent key configuration. Servicing procedures to correct this take about 30 seconds of your time, a small stiff piece of wire, and the correct changing tool.

With so many mall stores going to

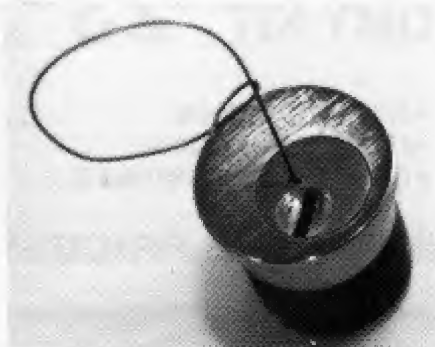


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this system, (trying to save money on horrendous locksmith bills) you should become familiar with this servicing system. It takes only a couple of minutes to master. This system is based on our work with the type 1 and the newer type 2 cylinders from U-Change.

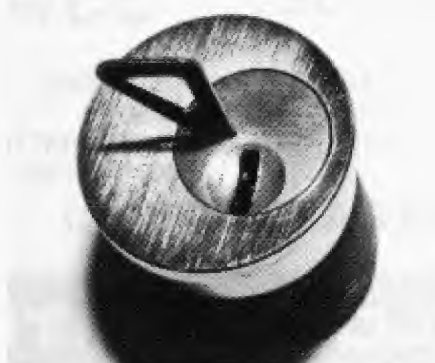
Take a small gauge wire about 6 inches long and bend a loop at one end (See photograph 1.) This is your shim.



1. Wire loop inserted in change key slot—this functions as a shim for type 1 cylinders.

With the cylinder in a locked position (Type 1), insert the wire in the change key slot to the inside (towards the center) and pick and shim the lock from the front with a lock pick. The wire will go in for 5 clicks and come to rest on the back tailpiece. On the Type 1 cylinder, all you have to do now is insert a small screwdriver or torsion/tension wrench and the lock is open and can be easily turned in either direction.

Turn it to the position where the change key is to be inserted (perpendicular to the "U-Change" lettering on the cylinder, see photograph 2) and remove the wire and insert the change key all the way. Now all you have to do is to insert the new key fully into the cylinder a couple of times, the last time fully, and turn the core back to the neutral-key removal position. The first time you turn the cylinder, it will "snap" hard to set the pins. From that time on, however, the cylinder will turn smoothly in both directions.



2. Change key inserted, ready for a key.

The type 2 (newer) cylinder is more sneaky. After shimming the cylinder with your wire, all the pins will be .030 (thirty thousandths) below the shear line (an improvement) and it will not be possible to just turn the cylinder at this point to open. One must use a turning wrench and just "rake" the pins slightly a couple of times, and then the cylinder will turn easily. This takes about 30 seconds on a hard cylinder. Again, align the change key slot, insert the change key, and rekey the lock to the customers new or old keys. This is quick and easy, with no disassembly of the cylinder.

For the purists, I will go into the internal operation of the cylinder briefly. There are five pins, five spaces, and four possible depths; not a vast number of changes. As far as I can tell, the cylinder cannot be mastered. The changeability of the lock can be explained briefly:

Each pin stack is made up of six parts. The bottom pin can be set in four different depths. This is accomplished by a "T" plunger, a bottom pin with four slots milled in it, and an internal spring, with a bottom pin holding fixture. The top pin is hollow with an internal top spring. Photograph three shows a change tool with an "exploded" pin. You will not have to take apart the cylinder to service them.



3. U-Change rekey tool and exploded changeable pin stack. "T" plunger goes into the bottom side into groove on floating bottom pin plunger.

When the cylinder is changed, all that happens is that the change tool pulls the "T" plunger out of the bottom pin allowing the bottom pin with four grooves to move freely in the chamber. The top of the bottom pin is at the shearline, so only the bottom part of the pin is free moving. Thus, in this

Continued on page 100

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The Suzuki Samurai

"Use caution when disassembling the door and rear gate cylinders. There is a ball detent in the front of the cylinder that is easy to lose."

by Bob Sieveking

The 1988 Suzuki Samurai is a real toy (see photograph 1). It has a wide track four wheel drive convertible with a leather nose. Not exactly my style, but it must be pretty popular with the younger set, because I had two customers ask how much I thought it cost, while I was trying to rekey the locks. So, if one of the kids loses his keys at the beach or gets locked out at the laundramat, best be ready. The Samurai uses the same key section as the Dodge Colt and the same depth and space information as the Toyota.

The 1988 Samurai that I had the pleasure of rekeying was as easy to work on as it was to look at. The igni-



1. The 1988 Suzuki Samurai.

tion and door locks were a breeze. The best part of working on a jeep style vehicle is the simplicity and ease with which they can be disassembled for service.

Opening the Samurai. By far the



2. Opening method using an "L" tool.

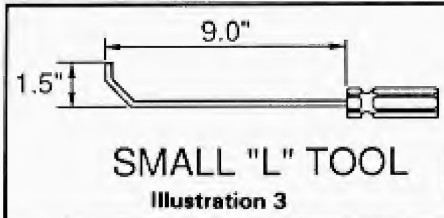
easiest method I found to open this particular vehicle was to unbutton the convertible top, but I understand that the Samurai also comes in convertible hardtop and hardtop models which would probably require a slightly dif-

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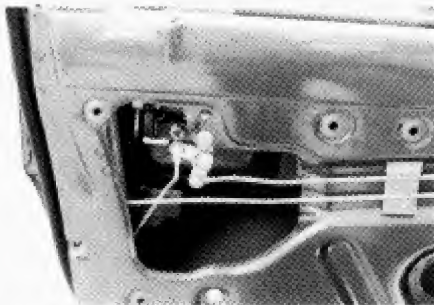
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ferent approach. Photograph two shows a method of opening which did not require unbuttoning the convertible top. The "L" tool shown in illustration three is inserted toward the front of the vehicle, under the lift handle, through the read hole.



Though the tool shown is factory made, an equally serviceable tool can be made from a 12" long $\frac{1}{8}$ " screwdriver. For clean corners without breaking, use a welding torch to heat the shaft at each bend.

The "L" is then turned inward to contact the linkage shown in photograph four. The bell crank arm shown in the photograph, is in the unlocked position. The bottom arm of the crank arm has moved toward the rear of the auto and the rear arm has moved upward. Use the "L" tool to either lift the rear arm of the bell crank or drag the lower arm toward the rear of the door to unlock. Be careful entering the door under the lift handle, as the tool can easily chip the paint if handled roughly.



4. "L" tool shown contacting the linkage.

Cylinder removal for a first key or rekeying. If the cylinders must be removed for rekeying or a first key because the keys have been lost, this vehicle should be no problem. The inner door panel is fastened with plastic "pop" fasteners that were designed to allow a locksmith or mechanic to remove and replace the panel without replacing all the fasteners or breaking the panel material. (The American auto makers should study this fastener design. It was built with the idea that somebody might have to take it apart to work on it someday.)

The rear gate cylinder, shown in photograph five, is identical to the

door cylinders. They all use the same style of close coupled lock pawl, which must be removed before the lock cylinder will slide out of the door. Use a small straight blade screwdriver to release the plastic rod clip from the linkage.

Use caution when disassembling the door and rear gate cylinders. There is a ball detent at the front of the cylinder shown in photograph six that could easily be lost if you didn't know it was there. The brass spring cover that "keeps" the detent spring, can be removed by gently prying it out of its groove with an awl. By releasing the

spring tension and shaking the ball out onto the bench, you will be able to keep track of it until the lock is reassembled. The spring cover can be reused if you are careful taking it off.

While disassembling the cylinder, I discovered that there were only five wafers in the door and rear gate locks. Though there was a space in the plug for the sixth tumbler, it was unused in these locks. The sixth wafer was found in the glove box and ignition cylinders only. The Samurai locks will require a chrome replacement cap if they are disassembled. Auto Security Products PN.#30-202, a Toyota replacement

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5. Rear gate lock.



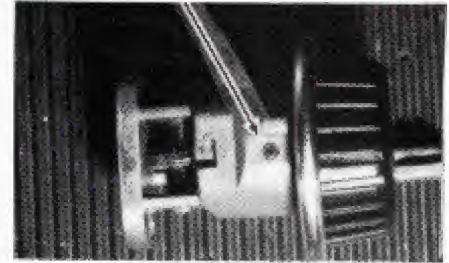
6. Samurai ball dentent and spring brass cover.

cap, was a perfect fit. If you need to recombine the lock, use Toyota wafers and springs (ASP PN.#A-30-104).

The glove box lock. The glove box in this vehicle is a four wafer lock. The lock uses the last three cuts of the key plus the seventh or valet cut, at the tip of the key, to operate the lock. The valet key would resemble a Taylor T8OS (Ilco #T61D), in that there would be a four cut in the seventh or tip space of the key.

To disassemble this lock for rekeying, remove the roll pin shown in photograph seven. Drill a 1/16" (.0625") hole, approximately 1/32" to the left of the pin as you see it in the photo, and angle the drill into the roll pin below the surface. The hole will not be over an eighth of an inch deep. Use a sharp awl to lever the pin up from the hole. This will free the lock plug from the glove box lock for recombining. Change only the first three tumblers. Do not change the wafer in the tip space, as it is only for the valet function.

Removal and disassembly of the ignition cylinder. The ignition cylinder can be removed by turning the key to the accessory position and depressing the lock retainer as shown in photo-



7. Glove box lock. Note roll pin.



8. The poke tool depressing the lock retainer.



9. The lock shown removed from the column.

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graph eight. A wire poke tool, bent to form an "L" with a 1/2" leg, is used to depress the lock retaining pin at the top of the lock. The plastic upper steering

column shroud does not need to be removed, to extract the ignition lock. With the lock removed from the column, as shown in photograph nine, it can be disassembled for rekeying.

To remove the plug of the ignition cylinder, insert the key and turn the plug to the accessory position. Depress the plug retainer wafer at the rear of the plug and push the plug out the front of the lock.

Key cutting specifications are given in the table shown in illustration 10. If you are using an HPC 1200 machine, use code card XF80 for the Samurai up to 1988.

If you are making a first key to this vehicle, because the keys have been lost, there are three preferred methods. Either 1) remove the passenger door lock cylinder to find the code, 2) impression a first key to the door lock and finish the key in the glove box or 3)

read the door lock for the first five cuts of the key and read the glove box cylinder to find the sixth cut.

When reading the cylinders, using an otoscope to light and magnify the keyway is probably the safest and fastest method. Illustration 11 shows an enlarged view of the keyway. Note that the #2 cut is even with the top of the major key ward, the #1 cut is below the level of the major key ward and the #3 cut is above the ward. A #4 cut is the highest wafer in the keyway. If you master reading this keyway, you should be able to read all Toyotas using the T80R key and all Dodge Colts using the DC1/DC3 keyway. Reading allows you to make a first key without disassembling the door to find the code.

If you decide to impression the door lock for a first key, don't forget that the door locks may not contain all six tumblers. You may have to impression the glove box to obtain the #6 cut. To avoid possible damage to the ignition cylinder, don't impression it unless absolutely necessary.

Special thanks to the sales manager and service department of Anderson Nissan Mazda Suzuki, for their assistance in the completion of this article. ■

MAKE SUZUKI
BODY SAMURAI
YEAR 1988

CODES U3001-4000 & U7001-8200
CODE LOCATION stamped on passenger door lock sometimes

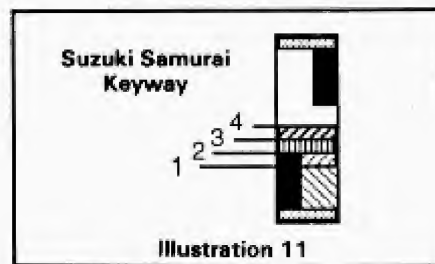
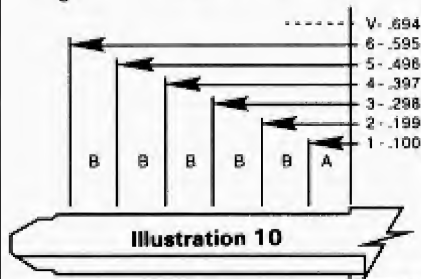
KEY:

TAYLOR X54 or X121
SILCA TOY 4R
CURTIS/ESP DC2 or DC3
ILCO DC1 or DC3

1200CM CODE CARD XF80

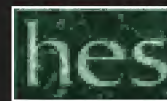
ROOT DEPTHS	CUT SPACING
1 - .277	A - .100
2 - .257	B - .099
3 - .237	DIAL SPACE
4 - .217	
5 -	
6 -	

ALL DIMENSIONS IN INCHES

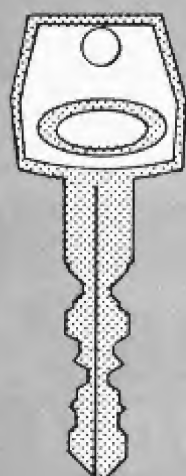


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Key

Machines

On Parade!

In this section you will find a number of products by various key machine manufacturers. Virtually every locksmith owns one or more key machines since key cutting is probably your best known service. A key machine is a piece of equipment you will live with for a long time, using it thousands and thousands of times over the years. Choose well and you will be purchasing an item that will pay for itself many times.

In this product review section we have tried to bring together a representative sampling of the key machines that are offered to the

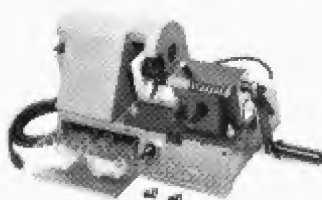
trade. Of course, it is impossible to have every manufacturer represented here. But we have tried to assemble a good sampling of material for you to examine.

If you feel you need more information about any of the items presented here, please use the Rapid Reply card to request literature. You will find the Rapid Reply card toward the back of the issue. Like cars, there are styles of key machines to suit everyone's taste. Be sure to give the matter plenty of thought. **MG**

Abloy Disklock Key Machine

The Abloy 6200 Key Cutting Machine is a code machine used for cutting the Abloy Disklock key. This machine can make the four angled cuts in each of 10 positions on the Abloy Disklock key blank. All cut angles are set by simply adjusting the cut lever.

As the operating handle is rotated the key is cut on all sides and the machine automatically spaces to the next position. This machine has one drawer for key blank storage and another to cut key shavings. Cut keys can be inserted into a small hole accessing a wire brush to remove any burrs.



ASP Has Tibbe Key Machine

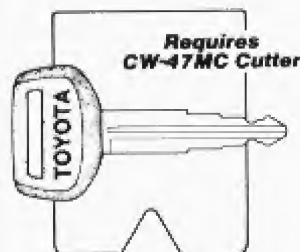
The Tibbe locking systems are now used on almost all Ford vehicles sold in Europe, and soon many American Ford products will also be adopting this system, so be prepared with the Jakey Ford Tibbe key-cutting machine.

Made in England where the Ford Tibbe key is now probably the most popular car key on the market, the Jakey has proven itself with years of service to English locksmiths and over 700 Ford dealers throughout England.



Continental Micro's New Code Cards

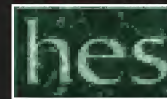
Continental Micro has announced seven new code cards for the HPC 1200CM code machine. They include: 1988+ Honda and Acura; late model Toyota, Mitsubishi, GEO and Chrysler imports; Eagle Premier ignition, Eagle Medallion and Peugeot 405 secondary; 1988+ Suzuki motorcycles 6001-7000 code series; Lori "80" keyway, and 1989+ Chrysler domestic double-sided for F, G codes.



Curtis No. 15 Code Cutter

Curtis' No. 15 Code Cutter cuts original vehicle keys by code. Recently, a number of import car manufacturers have adopted a new 8-cut key for 1988 models and beyond. Curtis has introduced code programs using a 47° code cutter, which can cut the new keys. Recent programs have included makes and models such as Daihatsu, Honda Civic, Isuzu, Mitsubishi, Eagle Premier, Geo Tracker and Metro, and more.





DiMark's Borkey Top-Cut

The new Borkey Top-Cut, Model 989, from DiMark International has just gone into production. This machine is the latest model for cutting not only the high security auto keys, but also other types of drilled and milled keys.

Keys are firmly gripped in the jaws without slipping, and the jaws rotate up to a 45 degree angle. The carriage is spring-loaded for precise key cutting.

The new Top-Cut is also reasonably priced.



ESP's Automatic 660 Machine

The Model 660 Automatic key machine manufactured by ESP Corporation has the same features as the Model 990 Manual including a heavy-duty 1/4hp motor, serrated reversible vise-jaws and steel insert turning knobs. A simple flip of a switch cuts keys automatically. Manual cutting can still be done by conventional methods.

The Model 660 is also designed to accommodate large head keys such as hotel and foreign auto blanks.



Foley-Belsaw Key Machine

The Model 200 is one of few such units which cuts flat steel plus first and master key systems in addition to all ordinary keys. It comes complete with an electric motor, three cutting wheels and full instructions.

The Model 200 also operates as a code cutting unit, and since this model comes with a built-in micrometer, you can adjust for worn keys—an especially important advantage.



Framon CD-300 Code Duplicator

The Framon CD-300 Code Duplicator is designed to cut auto keys by code and to also duplicate auto keys (both domestic and import), so there is no need for two key machines. Low cost components reduce the cost of key cutting by making clippers obsolete.

The code duplicator comes in either 120VAC or 12VDC at the same price. The basic machine at time of purchase, includes cam and spacing keys to cut AMC, GM, Chrysler Ford pin tumbler and Ford wafer keys.



ASP Covers the World of Auto Locks

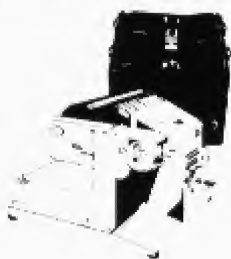
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HPC's 1200CM Code Machine

The AC-DC code machine has been redesigned. The features of the machine are unchanged, but now the new compact AC-DC fits in a soft computer-style carrying case. The new case is lightweight and easy to carry.

The updated design allows the machine to be completely removed from the case. The revised AC-DC takes up no more bench space than a 1200CM. Plus, the 1200CMACDC, as with all other 1200 machines, comes with the new exploded card deck.



ITL 9000's New Features

The ITL 9000 computer code machine now has over 600 sets of manufacturer spaces and depths built in with room to enter 160 user sets of spaces and depths. This additional space will allow the locksmith to update his machine in his own shop instantly when any new car or lock comes out.

The speed of the machine has been increased and now the time to cut an average key to code has been reduced to 24 seconds.



Jet Hardware's Pro Jr.

Jet Hardware's 1/4h.p. key machine comes complete with a two year warranty.

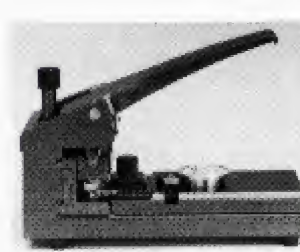
The Pro Jr. features: extra heavy duty casting; accurate, strong, reversible gripping vise jaws; long indexable handles; 3" diameter cutter and a heavy duty wire brush. The unit also allows easy line-up of keys.



Keymaster New From Keymak

The Keymak Company, announces the release of "The KeyMaster."

It offers a totally new design for code key machines featuring an indexing system that allows the cutting of several key types from one machine. It also contains a new punch carrier that uses optional left or right punch dies. Other new features include the precision machined aluminum "Code Wheel" and ball bearing mechanism, which replaces the old sliding bar space index design.



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locks and keys.

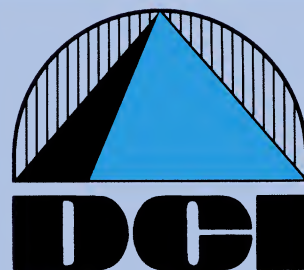
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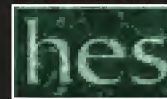
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Locksmith Store's Sabertooth™

The Sabertooth™ Key Duplicator is a newly designed key cutter developed by The Locksmith Store.

The Sabertooth features a new 3" plus billet of carbide, weighing more than 2/3 pounds, and powered by a 1/3 h.p. motor. To insure "zero" power loss, cog pulleys and a toothed drive belt were adopted.

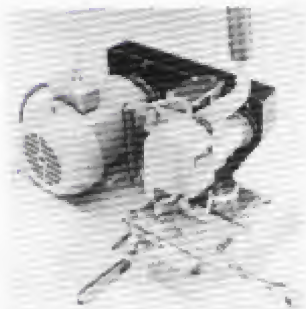
Parallel action vises were added for key clamping and material stability. Simplified gauging of keys with and without shoulders dictated a full function shoulder/tip gauge with extended travel.



Medeco Locks' Biaxial Machine

Medeco Security Locks offers their Biaxial manual code cutting machine, designed exclusively to cut Medeco Biaxial high security keys.

It features pre-set positioning for fore and aft cut spacing. A Biaxial key cutting code book is also supplied with each key machine, free of charge.



Precision Products' 'Half Time'

Precision Products, Inc. is now manufacturing and selling the "Half Time," a key machine specially designed to cut two flat keys at a time, with total accuracy. The machine operates on the "X-Y" principal, the same as a milling machine.

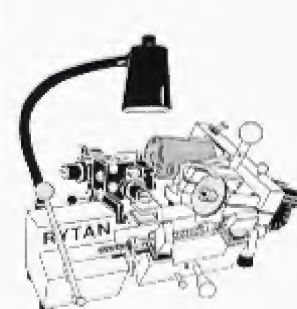
"L"-shaped vise handles allow fast insertion of all flat keys. The Half Time also features a rotating stylus for four guide widths, an oversize carbide cutter, and options such as a flexible work light, a 12 VDC motor, and a .032" cutter and stylus for narrow keys.



Rytan's RY256 Key Duplicator

Several available options make it possible to get the work of several different machines done with the Rytan RY256 high security key duplicator.

The various options allow you to cut Medeco, standard keys, keys from code, and do slotter work. Other options include a lamp kit, 12 volt motor, wire brush kit and a key ring adaptor kit.



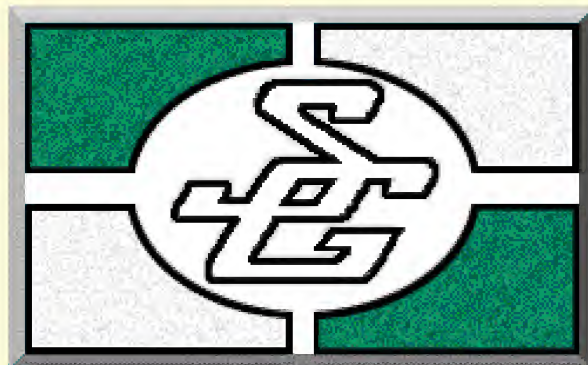
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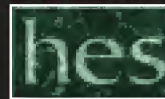
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Scotsman's 747X Cuts Tubular Keys

The 747X key machine from Scotsman Security Products, Inc. is for locksmiths whose tubular key cutting requirements are limited to standard size tubular keys. The 747X is known for its dependability as well as its versatility in duplicating, decoding, and cutting-to-code.

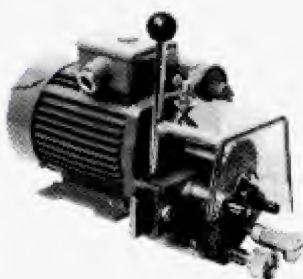
In recent years, the "Segal Modification" has been included as a standard feature on the 747X. This mechanism releases the machine's inner control, allowing for keys to be cut in any radial position and to any depth.



Abloy LK-01 Standard Machine

The Abloy LK-01 machine is designed to cut the standard Abloy key blank by code. This machine has 6 pre-set cutting angles that can be made in each of the 9 positions on the standard Abloy key blank. The spacing is controlled by a feeder screw that indexes to each position.

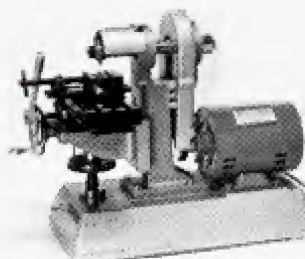
The standard Abloy keys serviced by this machine are very common in coin-operated applications such as vending and laundry coin boxes.



DiMark's Keyway Milling Machine

DiMark International's Keyway King Milling Machine comes complete with 16 different profile cutters and allows the locksmith to alter existing keys as well as blank stock. The Keyway King allows you to make the latest series keys even though they may not yet be available through your distributor.

Additional capabilities include being able to make keys that cross over to other keyways, expanding master keying possibilities in many systems.



ESP's Manual 990 Machine

The ESP Corporation manufactures the Model 990 Manual key machine. The 990 features double-sided reversible jaws that eliminate the need for adapters, 34MC high-speed cutter, bronze gauge fork and nylon brush.

The 990 also accommodates the SMS-45 side-mill slotter by reversing the stylus and installing the slotter with an additional washer.

The carriage is fixed to the sliding carriage shaft resulting in reduced play, less wear on the shaft and bearings, and more accurate key duplications.



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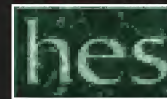
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Framon's #2 Code Machine

The Framon #2 will cut standard cylinder keys, flat keys (locker and deposit box), foreign and domestic auto keys, Medeco and Emhart keys. The Framon depth and space book contains information to cut 1159 code series.

Components included with machine are a depth and space book, 3 cutters, 4 spacing blocks, 6" precision dial calipers, spacing clip (Ford & Best) and allen wrench. The Framon #2 code machine eliminates need for cards, discs, cams, carriages, and depth and space keys.



HPC's New 9170 Duplicator

This new machine has all of the design features of the 9160MC except it is operated by a lever. This design allows the carriage to move smoothly with the use of one hand when cutting the keys.

The 9170MC is designed to cut large head keys (such as hotel keys) and has reversible jaws for cutting double-sided keys (such as foreign automotive or cash register keys).

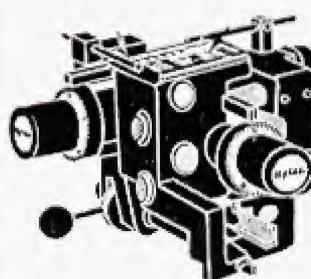
The reversible copy dog allows you to cut flat steel keys, when the optional side milling slotter cutter wheel and washer is purchased.



Rytan's RY501 Code Duplicator

The RY501 code duplicator kit from Rytan is made to fit the Rytan, RY100 or RY256. Other special features include heavy-duty aluminum construction and depth and space dials that run in sealed ball bearings and have adjustable zero positioning for specialty work.

There is also a removable stylus for code duplication and slotter work.



Scotsman Upgrades Cutting Capabilities

Locksmiths can upgrade their tubular key cutting capabilities with the Scotsman 747XU key machine. The 747XU will duplicate, decode, and cut-to-code all three size tubular keys. It makes all necessary cuts for 7, 8, 9, 10, and 11 pin locks, having center, left or right cuts, as well as dead pin cuts and cuts within cuts.

The "Segal Modification," a standard feature on the 747XU releases the machine's inner control, allowing for keys to be cut in any radial position at any depth.



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Locksmiths and Bell Hangers

"Shop advertisements from the 1800's show that locksmiths also acted as 'bell hangers.' Were they hanging church bells? I did some research..."



Send your lock and key questions to Jack Roberts, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107

by Jack Roberts

In the process of doing historical research at the public library I noted, with interest, that listings for locksmiths in the business directories of the mid to late 1800's came under the heading "Locksmiths and Bell Hangers." Now, I am somewhat familiar with the term "locksmith," but "Bell Hanger" left me hanging. Just what the heck is,

or was, a bell hanger and what does that have to do with locksmithing?

Individual shop advertisements in those business directories as well as the city directories clearly show "Locksmiths and Bell Hangers" as can be seen in photographs one and two. The old Roberts curiosity came to the front and the originally intended research went to the back burner as I directed my attention to this new found and perplexing term. In my mind's eye I could see a locksmith atop a church steeple hanging a bell and, with my fear of heights, immediately came to the conclusion that I would not have been a successful locksmith in the 1800's.

Research, however, disclosed that

what many of us are doing today is no different than what our fore-fathers were doing a hundred years ago. Well, there is a slight difference. They did it mechanically and we are doing it electronically. You have seen, I'm sure, in movies depicting that bygone era, a lady of the house pulling on a velvet tassel to summon a maid or household servant. The "pull," shown in photograph three is in the great room of the home surveyed for this article and was embroidered in 1870 by an Aunt of the present owner.



1. "Staff photos" taken in front of...



2...1800's locksmith and bell hanger shops.



3. An embroidered pull used to summon servants.

The next scene cuts to the kitchen or servants quarters where a tiny bell is shown ding-dinging with an indicator of some type, which tells just which tassel or cord has been pulled. The business end of the call system in the home we visited has been electrified with the installation of the call-board shown in photograph four.

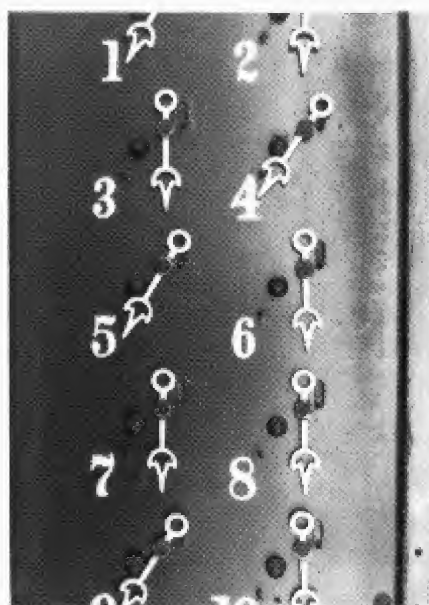
The original bell cables were left intact and a rather ingenious system of switches installed to activate solenoids behind each of the arrows. Note that there is a slot on the right side of each arrow, near the top, with a pin visible.

A cancel button at the bottom of the panel raises slides to which these pins are attached and releases the arrows so that they point downward.

Anyway, this is what our Grand or Great Grand Daddy's were doing when they were "Bell Hanging" and this was a highly technical skill of the period. The routing of cables through walls and ceilings was much the same as hard wiring an alarm system today with one major difference; corners had to be

negotiated with a very positive action and this was accomplished by the use of specifically designed "bell cranks," devices we still use today but with different applications than the original intended use.

Various types of bell cranks were employed to negotiate horizontal corners (see photographs 5 and 6), vertical corners, (see photograph 7), and to go through studding (see photograph 8).



4. An electric call board.



5. Bell cranks designed for...



6...horizontal corners.



7. A bell crank for a vertical corner.



8. This crank is designed to go through studding.

Somewhere along the routing of each cable a return spring was installed which was known as a "bell spring," the long boring bits employed for boring holes in studding and rafters were called "bell bits" (a term still in use today in some areas), and the guys who did all of this were "bell hangers." This of course is historical trivia, but the next time you get involved with pulling an alarm wire through an area think for just a moment of the problems the old timers faced when laying out and installing such a system.

A special thanks to Thomas Hartke for the group photo and the hardware items, Charles Fleishman for his gracious permission to come into his home for photographs and to the librarians in the rare book section of the Cincinnati public library for their assistance in researching the information for this article. ■

Canada Lock Show

Canada Lock Products held its third Annual Dealer Show on Sunday, April 16, 1989 at the Toronto Airport Hilton Hotel. Close to 500 locksmiths, manufacturers, sales representatives and staff participated in what turned out to be the company's most successful show.

In cooperation with most of the manufacturers that exhibited, locksmiths were able to respond by taking full advantage of the money-saving promotions that were available at the show. One of the highlights was the awarding of a special plaque honoring the founder of the company, Nick Saginur, in recognition of his contribution to the development of the locksmithing industry in Canada. The award was bestowed in an emotional ceremony.



Winner of the trip for two to ALOA in Atlanta is Jim Saikaley (right), with Steve Dyson.



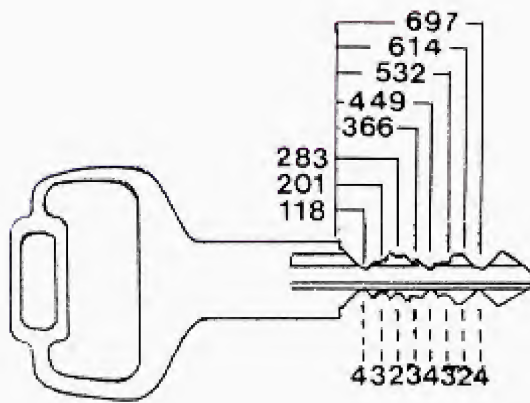
New LSDA, products get the dealers interested.

Locksmiths attending the show were treated to numerous drawings. The main prize was an all-expenses paid trip to the ALOA convention in Atlanta. It was won by Jim Saikaley of Avenue Locksmiths, Ottawa, Ontario. Capping off the show were two seminars. One was offered by Sargent & Greenleaf on their combination locks. The other was offered by Unican on the push button lock. Each seminar was attended by over 150 locksmiths. Canada Lock Products is now planning their 1990 dealer show. ■

Nissan Codes

1-4000

©The National Locksmith, Streamwood, IL 60107



Editor's Note: A valet key may be made for the 1-8000 Nissan Series by using key blanks DAT14, (Silca), X124 (Taylor) or DA26 (ILCO).

These codes will appear in the NFCB 1990 update. Code books from The National Locksmith are the most complete system available. As an owner of our code books, you even get to use our free Code Hotline. See our ad on pages 52-53 for more information.

DEPTHS

0 -	5 -
1-0.276	6 -
2-0.256	7 -
3-0.239	8 -
4-0.219	9 -

KEYWAYS

	MASTER	VALET
Silca	DAT13	DAT14
Taylor	X123	X124
Dominion	DT23	DT24
Curtis	DA-25	DA-26
Ilco	DA25	DA26



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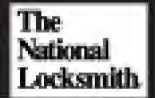


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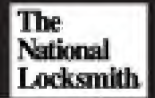
Keyblanks:

Silca **DAT13**
Taylor **X123**
Ilco **DA25**

Code Machines:

1200 CM No. **XF67**
Codemax No. **3 - 1**
DSD Page Ref. **3-7**

0001	0051	0101	0151	0201
01 13244213	51 23344343	01 44422223	51 34422243	01 31324322
02 31334231	52 11223223	02 24221324	52 21112423	02 42332231
03 43242232	53 13442231	03 32131122	53 32422311	03 44213334
04 23424333	54 31322221	04 43223323	54 21134243	04 32232312
05 23423244	55 23433212	05 42333342	55 43423231	05 32121133
06 32433342	56 32242311	06 12221132	56 42432344	06 34234433
07 21243111	57 13224431	07 43123423	57 44332424	07 32112133
08 42223432	58 11234243	08 43112432	58 13331113	08 13433222
09 23343212	59 11332424	09 22331223	59 42433433	09 23444232
10 33422444	60 43324433	10 43332113	60 22132121	10 33444231
11 31133221	61 43432112	11 24231321	61 11343222	11 31132134
12 33242233	62 23224432	12 12433432	62 13343222	12 12323122
13 43312212	63 42112431	13 24422121	63 34233342	13 21243334
14 21244243	64 34432424	14 12224333	64 34224342	14 23244432
15 33224233	65 23442232	15 13442112	65 33243122	15 11231134
16 33131221	66 24324313	16 22344232	66 22243432	16 31222244
17 11132424	67 12422432	17 13344223	67 33433442	17 42332334
18 13334224	68 23213432	18 12343313	68 22431113	18 24221313
19 32432431	69 33222132	19 13132242	69 13123244	19 24311124
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24 43431124	74 12124431	24 13443221	74 24331223	24 24213233
25 42443421	75 23431232	25 34344242	75 32211232	25 33423434
26 12433212	76 12232233	26 42223344	76 42342122	26 13212344
27 43331244	77 33211321	27 34424234	77 34431122	27 42234322
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31 31134442	81 43112133	31 31342234	81 22311322	31 43122323
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35 12133311	85 22343442	35 24432212	85 43223422	35 23431212
36 33432234	86 13343123	36 11312334	86 23443442	36 22123444
37 21332113	87 31322342	37 33133421	87 33213213	37 31234344
38 13423124	88 44233431	38 34244322	88 43133134	38 42124244
39 11233433	89 21112223	39 33123213	89 33422312	39 13223111
40 32231122	90 24243344	40 12112243	90 33424332	40 43343223
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43 32423424	93 11133124	43 24422321	93 33231213	43 21133132
44 32344321	94 11133213	44 23433432	94 33321231	44 33243342
45 31123442	95 31124234	45 33344421	95 22231132	45 43132432
46 21234231	96 43422111	46 34432334	96 22342124	46 44312112
47 43212211	97 23311334	47 42122432	97 33111221	47 13442121
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1-4000 NISSAN

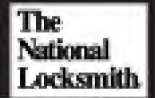
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

0251	0301	0351	0401	0451
51 43322134	01 32424313	51 42443234	01 32443234	51 42211211
52 44231132	02 33321313	52 23213234	02 11331232	52 34243242
53 44343224	03 44342223	53 23113222	03 24233134	53 44332122
54 32243224	04 32433434	54 12222133	04 13424431	54 32234422
55 43122334	05 42312433	55 42443113	05 21322344	55 23434231
56 34211234	06 21332324	56 11313422	06 23342323	56 32311233
57 32342343	07 43122132	57 32114231	07 24434322	57 23434221
58 13224332	08 31322122	58 33342443	08 22334442	58 42422424
59 43131224	09 31121132	59 11332224	09 42324324	59 34421134
60 12231342	10 31233222	60 43222344	10 42342324	60 43431131
61 12323443	11 43331121	61 32423112	11 44234221	61 13434421
62 42322333	12 12342433	62 12442212	12 12133422	62 23442124
63 43242133	13 42133133	63 33112123	13 32322334	63 22332211
64 32324343	14 23434222	64 13342443	14 42312244	64 13113212
65 42242312	15 12343212	65 23224421	15 21223123	65 23311224
66 43433421	16 23434222	66 33121123	16 42112444	66 13443421
67 13133211	17 22213343	67 31233132	17 44322331	67 43442113
68 33422431	18 31123244	68 13232212	18 11244323	68 42133423
69 31223122	19 43311213	69 43223424	19 24312123	69 43312423
70 43323243	20 21211234	70 12334243	20 31223421	70 22323343
71 42323123	21 12444324	71 34211223	21 42331324	71 34434213
72 22113133	22 11311333	72 43323324	22 43342343	72 22131221
73 13221122	23 13333124	73 33311322	23 31342223	73 31243423
74 13112334	24 34244324	74 43111332	24 43322444	74 23244324
75 44323422	25 32312342	75 13123332	25 42313324	75 13313122
76 24432322	26 22211233	76 42233224	26 13113313	76 24423223
77 24321244	27 32334324	77 34331244	27 13313113	77 21233223
78 23244322	28 13232443	78 43423433	28 42423313	78 44323424
79 12231312	29 33111322	79 24343224	29 13311344	79 43421213
80 43131123	30 42234443	80 33322124	30 42421342	80 42112213
81 24334424	31 43211212	81 33421234	31 42422431	81 13243443
82 12311312	32 12332111	82 43422342	32 21211232	82 32122424
83 11133331	33 42344432	83 34322244	33 11344432	83 32133134
84 12424322	34 21333111	84 42312233	34 23133424	84 23343342
85 24311333	35 23323342	85 11333223	35 33112444	85 34223224
86 23124422	36 23432242	86 31324324	36 34242313	86 32133312
87 12433443	37 13221313	87 13323424	37 11223133	87 34421332
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89 42132334	39 13213233	89 12443332	39 44332224	89 23443242
90 31342211	40 24434432	90 23112212	40 21132234	90 23221244
91 21334331	41 43323342	91 23213124	41 31233231	91 24312323
92 12243422	42 43312322	92 11224334	42 23323124	92 22432421
93 33243234	43 32112421	93 34332111	43 33224321	93 43121344
94 12443431	44 11224422	94 23243343	44 43323423	94 31232331
95 13223434	45 12423433	95 31224321	45 32122431	95 13321334
96 24443221	46 31322322	96 34211311	46 22424321	96 32212134
97 11313313	47 32223424	97 34243343	47 21113332	97 34232132
98 22213213	48 21342323	98 13442431	48 43323124	98 12342442
99 32113321	49 11243324	99 32123331	49 43132212	99 34331242
00 12434431	50 42334334	00 42423331	50 22243421	00 44223131



1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 1
 DSD Page Ref. 3-7

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01 12244223	51 12134331	01 32131321	51 13334213	01 23322424
02 23311123	52 43432442	02 43112221	52 23122323	02 42223331
03 12222113	53 44342124	03 31331113	53 13432122	03 33312224
04 22442343	54 12433114	04 33324344	54 44312134	04 32113334
05 24211231	55 13232111	05 24434324	55 34334342	05 43322424
06 24223432	56 13443322	06 12223321	56 32213232	06 32224423
07 24332332	57 43421331	07 12332221	57 33112224	07 32442223
08 44244231	58 22121332	08 44432331	58 11231123	08 31222433
09 33234432	59 11213334	09 32124433	59 33124443	09 22433242
10 42422323	60 31242312	10 13333111	60 42112112	10 24421131
11 21322323	61 24213134	11 24342212	61 42134242	11 42211123
12 43234424	62 33123321	12 33112334	62 34332221	12 31122421
13 24442134	63 44322311	13 12132243	63 32132131	13 34213232
14 43343324	64 44422323	14 42111243	64 31212443	14 21344323
15 12224432	65 22433233	15 44222312	65 13132431	15 42311133
16 24211233	66 31243232	16 32134221	66 13423131	16 22333212
17 34424333	67 32431232	17 31224334	67 31244224	17 22133234
18 23134423	68 34212213	18 24312442	68 22311313	18 21131134
19 31234322	69 22443324	19 24421342	69 13211244	19 32112221
20 43242111	70 21122321	20 33123231	70 34331121	20 13343121
21 24343211	71 13344232	21 33211323	71 42442334	21 12334443
22 23422333	72 34223334	22 33324234	72 22424334	22 23312122
23 44322234	73 22324344	23 13231213	73 13122333	23 43243213
24 44213332	74 34221213	24 42333243	74 22131344	24 23332423
25 12112324	75 31232234	25 11343343	75 32132133	25 24432331
26 42421131	76 43223211	26 11322124	76 21244421	26 42231134
27 34232444	77 22321134	27 42331223	77 44221243	27 21133433
28 12324323	78 24224321	28 44213442	78 31112312	28 21324233
29 23122423	79 34324323	29 22333113	79 32123133	29 42111232
30 23423123	80 33132444	30 31113212	80 43322431	30 23122132
31 43432431	81 33422224	31 13312332	81 43121122	31 42222431
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33 22342443	83 44422231	33 21233243	83 42234331	33 24443322
34 21322334	84 24233321	34 32434213	84 32234312	34 42233424
35 33421122	85 23433113	35 12123432	85 11311344	35 24421331
36 44321323	86 44213242	36 24334332	86 23122334	36 42433224
37 42233422	87 32443334	37 44223113	87 31342124	37 44234342
38 32312234	88 12224132	38 24234432	88 42431332	38 32123324
39 43113323	89 31342243	39 33434221	89 42111324	39 44223221
40 21133224	90 21324244	40 12423132	90 24342124	40 43213423
41 42134422	91 23422131	41 23324244	91 44232443	41 44221324
42 21233322	92 13331232	42 24311344	92 42311124	42 23321124
43 31344322	93 11122331	43 43442331	93 11231321	43 13433424
44 44334213	94 34342323	44 44421333	94 42421113	44 12311143
45 23223334	95 21333224	45 33431132	95 44233231	45 13223122
46 44312231	96 32124313	46 32444322	96 43421121	46 23422113
47 13343244	97 44422334	47 23444313	97 13132442	47 44421124
48 23133112	98 31322223	48 42133434	98 23312113	48 23224324
49 34322321	99 44213431	49 43324244	99 13213134	49 33443324
50 33242442	00 31113313	50 44332312	00 34311312	50 34443332



1-4000 NISSAN

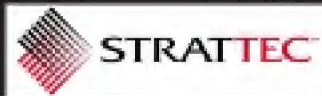
Keyblanks:

Silca **DAT13**
Taylor **X123**
Ilco **DA25**

Code Machines:

1200 CM No. **XF67**
Codemax No. **3 - 166**
DSD Page Ref. **3-7**

0751	0801	0851	0901	0951
51 42311333	01 32124312	51 33423421	01 12344222	51 44311333
52 12332331	02 13233222	52 22443131	02 32213434	52 32124431
53 32222313	03 43232233	53 42122342	03 44311133	53 22112132
54 34224311	04 43123221	54 43333442	04 44231244	54 21344244
55 33243243	05 43433124	55 34432242	05 44213244	55 24244334
56 12432231	06 22234432	56 42342443	06 42233444	56 42442123
57 33234243	07 44313221	57 13113122	07 21113321	57 43312311
58 42313212	08 33244334	58 12313211	08 42323121	58 11244242
59 21331224	09 42443243	59 11242433	09 23424423	59 22312213
60 12443213	10 22231233	60 13323244	10 31311344	60 22344234
61 34224434	11 33322421	61 21233133	11 21243244	61 24332321
62 23422234	12 34322112	62 12233124	12 13211222	62 32243134
63 23422234	13 13132132	63 43122211	13 21344224	63 32442313
64 33321132	14 43112342	64 44231231	14 21312324	64 31321334
65 11223434	15 44242334	65 33442211	15 43223343	65 12113222
66 23211212	16 13322124	66 12233423	16 32443332	66 11213242
67 44421322	17 13423113	67 13233132	17 33431224	67 31122322
68 11242213	18 42234423	68 24323121	18 32311334	68 21122231
69 32111321	19 21331321	69 13242132	19 13431224	69 31132224
70 12343342	20 12224421	70 42344331	20 12124433	70 12244232
71 22343321	21 12442221	71 42242112	21 34234233	71 12213232
72 44211244	22 42333423	72 32222311	22 34243233	72 34213434
73 44243223	23 33113432	73 24312343	23 13323321	73 32132344
74 33442123	24 42324423	74 44221313	24 34324211	74 42132213
75 12133444	25 42324423	75 24421113	25 12422434	75 43421231
76 34243244	26 32443431	76 13334442	26 13223421	76 32223442
77 21324424	27 22342423	77 31334422	27 13322111	77 21113231
78 34422432	28 11311324	78 33122342	28 11224233	78 13243423
79 11224244	29 13442332	79 24434331	29 32433131	79 43224221
80 42243131	30 34442133	80 34234211	30 33423221	80 44213321
81 23324233	31 23324424	81 44231233	31 32123111	81 21223312
82 21312223	32 43423213	82 12423334	32 32112342	82 22342113
83 34222331	33 12231243	83 31312424	33 32344242	83 21332212
84 31134224	34 11233442	84 21343124	34 34222311	84 42432232
85 22231231	35 22433213	85 44211242	35 42433442	85 23443222
86 11212342	36 11343242	86 22444213	36 44232344	86 43244333
87 31324423	37 33123123	87 43433223	37 11243432	87 33124322
88 43324233	38 43324424	88 32223343	38 44323244	88 11344331
89 42121121	39 13434434	89 23423444	39 13244231	89 31324311
90 32213212	40 24442323	90 12312322	40 43312243	90 34234442
91 12234433	41 22322443	91 31342232	41 43232242	91 22324443
92 24334334	42 22344311	92 12244342	42 42123334	92 12313444
93 22244231	43 42313311	93 42113344	43 42334442	93 31234331
94 21231243	44 42242233	94 22131234	44 42231211	94 12123133
95 21121133	45 22231244	95 22442233	45 13233231	95 22112424
96 33432232	46 13421243	96 31332111	46 43133132	96 42112233
97 13432232	47 43124332	97 32422421	47 44342221	97 42122434
98 23312331	48 32444324	98 43113224	48 13234432	98 42243313
99 23321221	49 33132123	99 11342421	49 43423211	99 43113431
00 44221122	50 11243212	00 21122433	50 22121132	00 44234421



1-4000 NISSAN

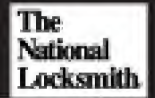
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

1001	1051	1101	1151	1201
01 21321234	51 34422221	01 43423134	51 12332223	01 13324331
02 31223434	52 12233434	02 33312244	52 33244224	02 13342331
03 21243343	53 24423313	03 12323324	53 44223432	03 23342332
04 23113444	54 12242313	04 22433321	54 11343244	04 24224244
05 43223442	55 21332124	05 44312123	55 21224423	05 33244244
06 42332211	56 34232211	06 34321124	56 34421213	06 23324332
07 31243343	57 43343111	07 12231223	57 23223432	07 21124244
08 21213423	58 22423331	08 21311312	58 43422124	08 32343231
09 32124343	59 31311324	09 43332124	59 43132122	09 13321132
10 32233131	60 11334312	10 33423342	60 43121243	10 23344323
11 43113312	61 23444234	11 23112122	61 34311132	11 12213434
12 43243321	62 23324213	12 11221324	62 13313322	12 11342344
13 12431324	63 42243221	13 32342244	63 43331132	13 32433111
14 11213442	64 22312321	14 13442312	64 34321221	14 31321312
15 21123423	65 12123324	15 23121122	65 23132234	15 42242433
16 42324311	66 31331232	16 31244343	66 44243133	16 33113342
17 31224244	67 34331312	17 21234424	67 12342312	17 42344324
18 31332224	68 21243233	18 24312211	68 13312112	18 33122344
19 22432113	69 34434321	19 42121334	69 11332112	19 44322432
20 22431213	70 12442234	20 13422332	70 11332244	20 43112423
21 33324443	71 22234243	21 42311344	71 42333113	21 12112333
22 12312423	72 11244312	22 32244333	72 33124324	22 12133431
23 11334431	73 43212444	23 13113322	73 11333212	23 23111233
24 32221332	74 42121134	24 44333111	74 21332432	24 22421331
25 31122344	75 24324344	25 42124423	75 23113213	25 31331212
26 32321122	76 42312431	26 31234423	76 32131222	26 33134424
27 43112442	77 12424311	27 12423424	77 22442213	27 12423332
28 11342333	78 43112134	28 42343343	78 32332421	28 12224324
29 23131231	79 34221231	29 33243124	79 11342212	29 34313111
30 44211222	80 13243232	30 22124333	80 23443433	30 33133111
31 22123321	81 23131244	31 12321344	81 21131123	31 23134443
32 42112244	82 24321224	32 34213324	82 32244243	32 31212211
33 12123342	83 24342221	33 34443213	83 12323423	33 42221324
34 31233431	84 34224313	34 24333113	84 34442333	34 42312224
35 33443131	85 31244323	35 23132113	85 11211323	35 33442242
36 34442342	86 12422331	36 31242233	86 12133242	36 34332223
37 43244243	87 22134334	37 43112344	87 23233113	37 22112332
38 34433221	88 42442132	38 23342123	88 33212212	38 42231321
39 43332212	89 41321343	39 33122322	89 11343112	39 12334423
40 24233422	90 22421342	40 12313421	90 11322333	40 43233421
41 42212333	91 12223433	41 31224233	91 23331134	41 21334311
42 13324344	92 34442111	42 43112223	92 32233122	42 24324331
43 42332224	93 42233134	43 12333442	93 22422234	43 21223233
44 11221243	94 11234434	44 12434433	94 32423321	44 11244332
45 33422213	95 42224442	45 13422343	95 24223331	45 31222444
46 42223324	96 32442443	46 21331211	96 33221322	46 32434321
47 34312342	97 22322344	47 13432432	97 42231123	47 23313213
48 22444233	98 33122234	48 11122243	98 233 2243	48 22431121
49 23131233	99 11333113	49 12431321	99 31112332	49 24443133
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1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

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51 11312213	01 44332244	51 42432432	01 13433121	51 23133422
52 43112124	02 11312331	52 32311123	02 32211331	52 43342231
53 42312132	03 32233221	53 32112423	03 12213324	53 33123211
54 23323113	04 31232432	54 13423443	04 34342332	54 23421334
55 43121124	05 23223244	55 23424221	05 33433222	55 12322123
56 44331124	06 23342224	56 32421123	06 23321122	56 24434221
57 44421224	07 23423343	57 34342123	07 42242442	57 43123322
58 13123334	08 32112223	58 24211343	08 22312433	58 12322442
59 24221342	09 42123332	59 33121244	09 42442242	59 23344244
60 24312242	10 32221123	60 11321321	10 23323311	60 32344431
61 32332443	11 22342243	61 31221324	11 31221122	61 24331344
62 43323113	12 22333243	62 24224233	12 44421122	62 31124331
63 44433224	13 11213244	63 42221313	13 12223112	63 12423112
64 43332432	14 23134243	64 43222111	14 44421122	64 32432242
65 24233424	15 43312124	65 44324432	15 43321122	65 32212312
66 23123221	16 23113211	66 44342113	16 21223431	66 13313124
67 22342231	17 33344223	67 13342322	17 12312313	67 32243433
68 11243421	18 24243131	68 42343242	18 22423324	68 44311324
69 13211332	19 31113322	69 21124233	19 31123334	69 12132432
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71 42333212	21 42134231	71 31322443	21 22332424	71 12434233
72 43122121	22 22123123	72 42134431	22 22113421	72 44224334
73 32344213	23 32311224	73 32442221	23 12122442	73 34342224
74 13322421	24 43342244	74 23442324	24 12313242	74 23333121
75 24333342	25 24232112	75 24211224	25 24233444	75 22113443
76 43423332	26 34223244	76 21344312	26 21134221	76 31221313
77 44243222	27 12443422	77 13443311	27 22133133	77 31312213
78 12443334	28 32432233	78 23132423	28 13422244	78 32424331
79 23442113	29 23322123	79 32322433	29 21231342	79 13424334
80 22424424	30 12134423	80 32112124	30 42433112	80 23221134
81 23113424	31 11321313	81 13221342	31 23211331	81 32123122
82 32222443	32 13344311	82 44221124	32 24323123	82 33113322
83 43133224	33 12124343	83 42123431	33 33424422	83 43211342
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85 33111243	35 44321134	85 24221331	35 43211234	85 44223243
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87 44331322	37 11321123	87 24332233	37 42312312	87 43213221
88 21233212	38 23322442	88 11224321	38 13442322	88 33422424
89 13424433	39 32131231	89 43233234	39 23431113	89 24322131
90 11324432	40 12321131	90 12442223	40 24312422	90 33224213
91 43122233	41 43331242	91 13323422	41 33211211	91 33223423
92 32112344	42 42322421	92 34312344	42 34211133	92 24342113
93 34212334	43 13321213	93 42111333	43 34424423	93 32432121
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98 44332112	48 34212132	98 12243213	48 22344243	98 13112321
99 22433132	49 42244231	99 13423322	49 13344234	99 12321113
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1-4000 NISSAN

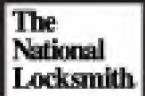
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

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01 32431342	51 11122133	01 43212343	51 34422424	01 32242432
02 33123121	52 12342211	02 13332444	52 13123431	02 43334223
03 33242213	53 12234233	03 32243123	53 33434421	03 12124424
04 44231332	54 43311312	04 12234442	54 44342243	04 33121134
05 12133121	55 24223324	05 13321311	55 33432131	05 22332132
06 12243211	56 43211223	06 21312333	56 13432131	06 23233443
07 32111231	57 24443311	07 32224344	57 24421231	07 23112324
08 12312243	58 33422231	08 12113444	58 22423434	08 11242334
09 12432123	59 12431243	09 33244343	59 11234342	09 31244312
10 12333312	60 44312343	10 42323321	60 21211331	10 44331331
11 22321121	61 13133113	11 24224213	61 21323223	11 11221124
12 34423224	62 24344342	12 13423234	62 23244223	12 21123221
13 34211342	63 32433421	13 21132113	63 22243313	13 42133223
14 13243324	64 31324342	14 24333223	64 23343221	14 31123332
15 12312311	65 21244313	15 24423344	65 23313321	15 23343113
16 34224234	66 33422334	16 43344222	66 13432133	16 21332322
17 12433232	67 43211311	17 12432224	67 21112331	17 21313224
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20 33212443	70 21121223	20 34442122	70 34421233	20 13122124
21 31242433	71 43442421	21 31211334	71 22113223	21 21323322
22 32134432	72 34234222	22 33434223	72 31321132	22 33222442
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25 21344332	75 22133423	25 42213213	75 44343222	25 31231213
26 43134421	76 24243221	26 13132112	76 32311332	26 43221213
27 34244223	77 32134342	27 24342223	77 23122121	27 13433423
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29 24422343	79 32432134	29 12442313	79 32322134	29 44211132
30 44311122	80 32332122	30 24332444	80 43433212	30 11122443
31 13113232	81 23324231	31 44344223	81 21231322	31 11333243
32 22313324	82 42131133	32 42211231	82 31113232	32 42132444
33 44423131	83 33242433	33 42222343	83 34233122	33 42211312
34 44432421	84 42344212	34 42423421	84 12211331	34 32113134
35 32123432	85 33424233	35 13422134	85 31242442	35 22133434
36 32243323	86 34423323	36 24322113	86 24344333	36 34242311
37 32334223	87 24313324	37 34231243	87 42342331	37 24244343
38 33422323	88 42131133	38 32243442	88 13224424	38 13211213
39 43313123	89 31344221	39 13211132	89 31243344	39 31113423
40 42112123	90 42324342	40 33424312	90 42133344	40 11222233
41 43123421	91 13312134	41 42213343	91 21132322	41 34322211
42 13433231	92 13113423	42 12243321	92 33442334	42 33312431
43 21343421	93 32321124	43 12334221	93 11343422	43 24221131
44 13233431	94 22233334	44 32324422	94 42343112	44 34321122
45 23433232	95 42243122	45 44324421	95 23122233	45 22213334
46 33231224	96 23313222	46 24432421	96 43244421	46 12212312
47 43123243	97 21124442	47 23331123	97 24432443	47 12312212
48 12442243	98 31243432	48 22134422	98 13422422	48 12442443
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1-4000 NISSAN

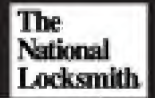
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

1751	1801	1851	1901	1951
51 22134242	01 22444231	51 14244321	01 43243224	51 42233231
52 24344223	02 31124221	52 42442233	02 31332424	52 21122343
53 43433432	03 41132423	53 13112231	03 44312242	53 43122134
54 44212333	04 23322244	54 23323421	04 43422344	54 24433433
55 32224331	05 42112224	55 33113232	05 21233342	55 34422311
56 42212243	06 42221124	56 44212443	06 13224343	56 12342321
57 23121334	07 42432131	57 44331311	07 32123342	57 23223321
58 22442134	08 23432233	58 11343123	08 24313212	58 13424211
59 22343323	09 43322244	59 42233132	09 42331344	59 44342232
60 21244344	10 12134213	60 12312133	10 44433112	60 23123421
61 32132223	11 13321233	61 23334243	11 13423223	61 44213323
62 32223123	12 12442232	62 13113133	12 34244342	62 12324321
63 31124434	13 32443422	63 32322444	13 32431113	63 23123243
64 32431133	14 33443122	64 43423132	14 33231211	64 21321344
65 24422244	15 13123444	65 12113424	15 33312132	65 23211223
66 43122422	16 43213342	66 11334433	16 31322131	66 43432242
67 32332342	17 21311343	67 13221131	17 24221113	67 34223132
68 34344233	18 34423431	68 23123322	18 21122332	68 13211242
69 31212434	19 33432122	69 43323421	19 32222331	69 12234321
70 43113132	20 42342322	70 42121332	20 32432334	70 11133312
71 12123122	21 32432424	71 13222312	21 23224342	71 12343221
72 42112334	22 42343222	72 11231334	22 44232212	72 13231224
73 24333243	23 43422322	73 32331222	23 42313344	73 24331113
74 31132244	24 43443112	74 44223313	24 13433123	74 24333423
75 24342243	25 12312124	75 43443134	25 34322343	75 21133222
76 13112422	26 13444233	76 11342234	26 43442131	76 31222233
77 31212313	27 33424213	77 12342242	27 43121333	77 31312233
78 12113213	28 23211234	78 23443312	28 42334321	78 13443234
79 13122324	29 22311333	79 43134434	29 21342442	79 34244232
80 31321213	30 23344312	80 12333242	30 13243113	80 43443121
81 23133444	31 13344333	81 33124234	31 33113423	81 31112433
82 43223123	32 33132422	82 22323444	32 31224231	82 13443113
83 33234434	33 11312424	83 42133243	33 11223322	83 33224231
84 23422133	34 32312344	84 32132324	34 21343344	84 34223321
85 22311133	35 32244421	85 42133421	35 12443224	85 43442322
86 34422331	36 34422313	86 43443321	36 32211212	86 24313311
87 13212331	37 32342323	87 42423342	37 23132232	87 24334211
88 23342433	38 34424221	88 44221342	38 42332424	88 44242231
89 31123431	39 44223331	89 13344243	39 23223132	89 33222343
90 42443131	40 32324323	90 23113123	40 11333423	90 12422421
91 33223311	41 22313212	91 31243421	41 42423324	91 23211311
92 11233123	42 43431212	92 12112234	42 32421334	92 22342313
93 13321231	43 13311221	93 31312433	43 43442133	93 44323323
94 34232433	44 44211213	94 22323312	44 22342432	94 23322321
95 21322134	45 32423442	95 13421312	45 22123121	95 44222334
96 11334224	46 34213122	96 43234224	46 31221124	96 23342442
97 22132244	47 22323112	97 34322332	47 33433424	97 43432121
98 12244234	48 42332112	98 23234224	48 23312443	98 23443244
99 33133221	49 33444222	99 22332312	49 21333123	99 42223443
00 31134424	50 24323224	00 11234421	50 43321124	00 21322444



1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

2001	2051	2101	2151	2201
01 24422134	51 43222234	01 33442132	51 22322313	01 42423434
02 43321221	52 43311211	02 33312312	52 33421131	02 22334424
03 43124211	53 34334243	03 22234434	53 21343223	03 23133242
04 44224233	54 43121322	04 31212432	54 12231133	04 21324213
05 23344332	55 44432113	05 32433124	55 34322233	05 42223342
06 22334244	56 42213132	06 12212122	56 43423422	06 42343422
07 12134443	57 34243343	07 22122313	57 21132331	07 42134433
08 42132123	58 11331234	08 12433444	58 12344343	08 13323442
09 33113212	59 33322324	09 44243113	59 23132124	09 32212231
10 43311132	60 32442243	10 23421324	60 31223322	10 43442111
11 22112433	61 21133321	11 32234433	61 44244222	11 23432211
12 22333324	62 42323422	12 33221243	62 31112424	12 42344322
13 13243212	63 23244342	13 24213213	63 24424332	13 21313343
14 31312244	64 22132213	14 43332434	64 32213243	14 44231242
15 21331334	65 42122421	15 31213222	65 24443234	15 24423331
16 24423423	66 42131243	16 22233213	66 12313323	16 22311344
17 42113441	67 34232334	17 23424322	67 22213431	17 21233331
18 34324321	68 24311221	18 43423334	68 13421133	18 11223124
19 32331134	69 21224344	19 44232111	69 24443113	19 24322313
20 33432434	70 42234232	20 23121344	70 43132131	20 31332132
21 42432122	71 44423124	21 43124433	71 33423311	21 13312442
22 13432434	72 44311124	22 33133124	72 34233232	22 34231243
23 33224431	73 12443211	23 21133231	73 12132342	23 21312434
24 23421123	74 44322434	24 33312444	74 24322331	24 34213243
25 44221331	75 33213442	25 33212243	75 42433222	25 21224331
26 21333222	76 11334334	26 32322431	76 32312122	26 24323424
27 44333124	77 13312323	27 24224231	77 43132133	27 32431234
28 33213243	78 31122313	28 12211234	78 24243342	28 22233211
29 33213242	79 12134243	29 12322321	79 24334242	29 43221231
30 12344211	80 31322113	30 12423422	80 43421233	30 32332311
31 31131133	81 43123434	31 12334344	81 13112442	31 22433244
32 24334233	82 21213342	32 21124231	82 32233423	32 24442121
33 34312232	83 43432134	33 24213343	83 24432113	33 23133431
34 34211122	84 22213332	34 23244232	84 44331243	34 23334443
35 43342323	85 44312422	35 42313243	85 32433223	35 12244333
36 12133123	86 12342422	36 13124333	86 12231331	36 44423322
37 33234221	87 22431132	37 22113324	87 43231243	37 24344232
38 13312123	88 24342232	38 33423111	88 11324221	38 13122432
39 22432124	89 32234244	39 22444334	89 23231243	39 23324224
40 12343113	90 24243122	40 31232434	90 12324334	40 34434332
41 23311332	91 24234243	41 23443233	91 33221324	41 21112243
42 13221113	92 33122421	42 33121224	92 32421312	42 33421313
43 31234234	93 44344232	43 32212433	93 11342223	43 44321121
44 33213431	94 24442112	44 22233112	94 22233312	44 13213213
45 24442231	95 33422442	45 32322424	95 12311343	45 12442124
46 43243211	96 12434222	46 43442342	96 11222444	46 24243234
47 13424424	97 13243432	47 32231243	97 42432434	47 33221122
48 12443343	98 22443223	48 24344321	98 13243344	48 34324334
49 21332434	99 32233324	49 22433211	99 21332331	49 12434231
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1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

2251	2301	2351	2401	2451
51 11122333	01 23113433	51 44312323	01 23213423	51 21123421
52 44313324	02 31321231	52 11213323	02 42343123	52 22343211
53 44211321	03 21313442	53 13133234	03 33111344	53 13424321
54 43244311	04 32122442	54 23133213	04 12323124	54 12422244
55 43221233	05 22344423	55 22243342	05 12322112	55 44224321
56 43221233	06 12244243	56 33242431	06 11332131	56 12233234
57 21343121	07 34221233	57 21321311	07 12224342	57 21123243
58 43413242	08 44323442	58 42131223	08 31211332	58 12443243
59 32312331	09 22323421	59 42431222	09 31234232	59 13321232
60 23113422	10 24321323	60 33124342	10 43233113	60 42332312
61 13213243	11 43121131	61 21324332	11 23331231	61 34443211
62 13324234	12 12233421	62 24231124	12 11221331	62 43223121
63 23331222	13 32344433	63 32111224	13 23221121	63 42331133
64 34224331	14 12433221	64 31344342	14 34224423	64 43422243
65 23322112	15 21334232	65 42212443	15 42111234	65 33223234
66 13343312	16 24343343	66 33432432	16 34434232	66 31342432
67 33232131	17 21134432	67 21213322	17 21124321	67 11342124
68 44331324	18 21231311	68 12242311	18 22134231	68 12313424
69 23422443	19 22233244	69 13313221	19 13234243	69 24434421
70 43324213	20 34443224	70 13343442	20 43324332	70 24233231
71 43311343	21 33432243	71 33424231	21 33113122	71 22342133
72 34234242	22 31321233	72 22311324	22 32434332	72 12112313
73 44432221	23 13432243	73 22344313	23 32121344	73 32344422
74 23243431	24 42313423	74 21123322	24 32244311	74 32234431
75 31213311	25 11322324	75 33213244	25 22243234	75 43124431
76 32442311	26 12231113	76 43223312	26 32132221	76 44331223
77 11221342	27 43124312	77 44333311	27 21342224	77 11243313
78 12323342	28 23424324	78 21134342	28 13243421	78 43111321
79 34331213	29 34423121	79 32221121	29 12431124	79 32433324
80 42323424	30 33222213	80 31231312	30 23112333	80 32443224
81 23213342	31 42322423	81 43423424	31 21132232	81 34223433
82 42432324	32 33421223	82 22431224	32 44431222	82 23231223
83 11233224	33 11344322	83 32442232	33 24333212	83 23431133
84 21231223	34 33221313	84 11122213	34 31332312	84 32442324
85 42224323	35 34212244	85 32233434	35 22111322	85 32132421
86 21322424	36 32243332	86 42221342	36 33213324	86 13311331
87 44324221	37 21321113	87 43432424	37 22311122	87 33444323
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91 42422442	41 33421113	91 31121343	41 33311344	91 12232231
92 34433311	42 24322311	92 34432312	42 11213221	92 11333324
93 12212332	43 32223312	93 24233132	43 11133324	93 13312343
94 33443223	44 22343213	94 13132231	44 23223433	94 23124332
95 23112113	45 23433221	95 13223131	45 31223124	95 31334224
96 21342123	46 12132434	96 23131242	46 24424312	96 32113323
97 23312221	47 34423244	97 12331334	47 24331232	97 23342132
98 24324234	48 21342332	98 42122344	48 33242334	98 21221231
99 33124432	49 44233233	99 44343242	49 21343324	99 22213244
00 34212233	50 31311221	00 32243242	50 12222344	00 22244431



1-4000 NISSAN

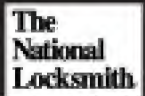
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

2501	2551	2601	2651	2701
01 42432243	51 33342322	01 12424313	51 22322133	01 43324312
02 31221342	52 34234332	02 42422132	52 12334223	02 43443134
03 42433334	53 43443123	03 33124421	53 33321211	03 12432444
04 44312442	54 42233431	04 32124424	54 33311122	04 33132442
05 12431244	55 33112442	05 22334321	55 12133344	05 23313444
06 34213223	56 32131233	06 42431312	56 12313312	06 22134321
07 12444212	57 24431222	07 43211133	57 32221134	07 31222431
08 44212243	58 23313211	08 44234223	58 12243323	08 24334222
09 31124344	59 34332131	09 22211334	59 34424322	09 22234342
10 33442343	60 22213321	10 34211124	60 22442331	10 24311331
11 33243322	61 42222134	11 43323311	61 42312444	11 23342312
12 42211224	62 42334244	12 12231211	62 21132124	12 11334442
13 23431221	63 43234213	13 12324433	63 12123443	13 43423112
14 24231334	64 13433431	14 31344421	64 23243312	14 23443134
15 31342313	65 24213132	15 13213222	65 11233424	15 24321343
16 24223443	66 23234213	16 33211231	66 24443243	16 11342132
17 42221331	67 22211134	17 42133311	67 23443112	17 22443313
18 43312342	68 31232232	18 34233324	68 33324432	18 24322133
19 13423313	69 44431231	19 23432231	69 33212313	19 32421134
20 31324313	70 42311221	20 34213331	70 13223221	20 23443321
21 34231223	71 22113311	21 11231132	71 33132431	21 33342342
22 24244224	72 23224434	22 12133334	72 33132431	22 24323244
23 24221233	73 31132334	23 32344233	73 23344321	23 13211323
24 13132424	74 12243224	24 23344224	74 23111343	24 43133222
25 33344311	75 34431212	25 43213313	75 13324443	25 22312244
26 33431211	76 42333324	26 42113432	76 43333424	26 33213123
27 43124343	77 43131121	27 32122312	77 31133324	27 34233131
28 32312232	78 24423324	28 13244222	78 44422132	28 13342342
29 23133121	79 23421311	29 43222313	79 33224442	29 24223342
30 24234342	80 34344231	30 21324442	80 13134422	30 24332242
31 24343242	81 43123313	31 21342312	81 34324433	31 11332332
32 43322123	82 31344223	32 22322131	82 43324442	32 13123231
33 44432423	83 22423342	33 32121122	83 23324442	33 12321322
34 12113123	84 43211124	34 22324432	84 11324333	34 13232131
35 21234224	85 24433224	35 21324312	85 42442343	35 32421332
36 11344324	86 32131244	36 31221331	86 31322313	36 32111233
37 42111223	87 33311324	37 43223233	87 12332234	37 44322124
38 43322442	88 34212112	38 31221221	88 44431312	38 44332213
39 22331212	89 42322324	39 21124334	89 34342134	39 43122224
40 13242134	90 22331344	40 34311343	90 23324312	40 33131243
41 31131243	91 33433121	41 31242213	91 33423122	41 21324231
42 33111324	92 12321333	42 33344234	92 13213132	42 43222311
43 42132312	93 43244313	43 31121321	93 13332242	43 13123311
44 32132443	94 43243112	44 33234421	94 24324443	44 34422421
45 23123434	95 32443343	45 43243134	95 22112323	45 43221334
46 42133212	96 22113434	46 11244233	96 32131242	46 43312234
47 22332112	97 24331212	47 31224213	97 12332122	47 43422223
48 42324313	98 22132334	48 12342134	98 11321134	48 13442224
49 22332244	99 44313212	49 24231231	99 22312233	49 33211312
50 23133244	00 11312224	50 43134234	00 24431231	50 23442131



1-4000 NISSAN

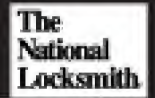
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

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52 42133131	02 22322113	52 44344311	02 43431232	52 13122342
53 32242331	03 32442124	53 34244234	03 31122423	53 11224431
54 12232132	04 43324231	54 22132444	04 34312122	54 22331133
55 13312211	05 21223444	55 42213122	05 42133122	55 33212431
56 34332234	06 34223112	56 21312313	06 34234231	56 12423442
57 32244313	07 43223431	57 33321224	07 42331232	57 12244421
58 23334423	08 23442322	58 44213231	08 34421211	58 31342133
59 43233432	09 22112431	59 12431131	09 23424311	59 32113442
60 44343112	10 24211334	60 21213313	10 33222134	60 12444221
61 32334311	11 34234424	61 21334434	11 11224231	61 23312324
62 32424432	12 43333242	62 44242132	12 32422131	62 32431322
63 33122122	13 12223323	63 34423123	13 33231134	63 44334321
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67 12213223	17 11213312	67 13332433	17 24244323	67 32213113
68 34432211	18 31131223	68 23324343	18 31334312	68 44421324
69 43443324	19 23422342	69 42343244	19 24321123	69 34233221
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71 24211134	21 3322231	71 34342312	21 32212431	71 43422313
72 44311221	22 31244242	72 43243231	22 22324421	72 34233111
73 42334424	23 44242343	73 11343312	23 31321332	73 24344311
74 42443324	24 44211323	74 23224313	24 23431234	74 22311124
75 42123444	25 21311231	75 44343121	25 24332433	75 34312331
76 34213311	26 33222231	76 12113422	26 32422133	76 32433212
77 42134332	27 12242432	77 32112331	27 22234421	77 34212134
78 23223112	28 31312224	78 21122431	28 32113431	78 11312244
79 43344211	29 44342131	79 34312113	29 12313244	79 43423233
80 44324333	30 44432223	80 22243243	30 21321223	80 43113444
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82 21233232	32 42234311	82 31334431	32 42244211	82 11233134
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84 32223431	34 23321344	84 11344212	34 32243132	84 44312211
85 43112331	35 34424324	85 44243324	35 23434224	85 23244234
86 34221334	36 44323343	86 33211123	36 13311243	86 12213311
87 24433442	37 11331221	87 34213133	37 42213211	87 12342131
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98 13134242	48 23422324	98 42323442	48 31311331	98 21123434
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1-4000 NISSAN

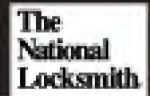
Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

3001	3051	3101	3151	3201
01 44234322	51 12431122	01 42334332	51 44223443	01 43211122
02 31211244	52 43212334	02 12122334	52 44431134	02 43322211
03 23321131	53 43321234	03 13442321	53 43212442	03 24231132
04 11223113	54 44222244	04 23421121	54 22122113	04 22123323
05 44212313	55 21344242	05 22331113	55 21334234	05 11332134
06 42112321	56 31212234	06 21243313	56 42321343	06 12133134
07 23113343	57 32432432	07 23444312	57 13124321	07 43232231
08 12224434	58 13311232	08 42132233	58 12122132	08 13242332
09 11323123	59 23133123	09 43212132	59 11332321	09 44332121
10 42134442	60 42331212	10 43333244	60 33312112	10 11231231
11 31221131	61 42332244	11 22434232	61 23434424	11 22432344
12 44421131	62 32334432	12 31211242	62 13122234	12 24323422
13 24343222	63 13234421	13 42232133	63 23321113	13 22433433
14 24434311	64 13343321	14 34231322	64 32121124	14 33322342
15 42132422	65 22112343	15 24442312	65 32212332	15 12243112
16 42244431	66 23312434	16 22132123	66 11324223	16 34242331
17 32211234	67 32211342	17 34422122	67 22131243	17 32331231
18 12431223	68 23312434	18 34334324	68 43113213	18 44221221
19 42234212	69 22442442	19 12333444	69 12311231	19 34342211
20 13113421	70 13423344	20 31334213	70 44421223	20 31132213
21 32444212	71 24313344	21 34232244	71 43122213	21 13112242
22 24424431	72 12122323	22 31244213	72 11233321	22 31223113
23 34213113	73 12223424	23 43243433	73 12323113	23 43311231
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33 32424421	83 33122423	33 42312332	83 21124422	33 21332221
34 43333211	84 23313242	34 12112443	84 33311124	34 11342113
35 42343121	85 33344243	35 32211223	85 43243323	35 31113443
36 31332244	86 24344234	36 43123344	86 34321344	36 31211222
37 13342344	87 21113323	37 24234434	87 22113234	37 42242231
38 12442113	88 11342423	38 32133231	88 13422233	38 43334432
39 33112321	89 42433312	39 24311243	89 31113421	39 22243124
40 23213313	90 44342111	40 44322421	90 12311233	40 43224443
41 43332111	91 42232131	41 12234332	91 31113243	41 23423213
42 13113124	92 43222443	42 12112322	92 44234324	42 13124324
43 12421334	93 43422432	43 12331332	93 42342342	43 11322423
44 31112343	94 23211342	44 24422211	94 11243234	44 12444333
45 42432133	95 23112234	45 23334221	95 31123444	45 31134244
46 42132433	96 43331213	46 13223344	96 32113233	46 44324223
47 23113242	97 31231224	47 43224223	97 23322211	47 44332321
48 23342211	98 13433134	48 11331312	98 43322321	48 34244333
49 32231322	99 13122434	49 32211311	99 22112213	49 24231332
50 23321234	00 23213221	50 42311331	00 24432124	50 3224223



1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

3251	3301	3351	3401	3451
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52 22122331	02 42332213	52 33231123	02 43131132	52 24313423
53 43243123	03 43332221	53 32332423	03 44343123	53 43232132
54 44322333	04 22322331	54 24234221	04 12333244	54 33122313
55 33421342	05 24244243	55 34321131	05 43242313	55 22111232
56 11231244	06 11122124	56 12432212	06 22344432	56 13212333
57 12243134	07 44433332	57 22233124	07 43433113	57 13423423
58 24311232	08 34431342	58 22423323	08 42213332	58 23223434
59 13222334	09 21231133	59 12211342	09 24213211	59 33312231
60 42242334	10 22123433	60 21224332	10 34424311	60 11322342
61 23444332	11 44212432	61 33113243	11 24223423	61 42212434
62 12213113	12 31234212	62 21324224	12 32431331	62 33221331
63 33132242	13 23443123	63 23421134	13 33112231	63 42121132
64 42123121	14 12344323	64 43213421	14 32443231	64 42231121
65 23243422	15 21112333	65 44333322	15 43421343	65 23342321
66 32331244	16 43224243	66 23322343	16 31233242	66 33322243
67 32132234	17 22423133	67 32344231	17 33224332	67 44224213
68 31244233	18 12323311	68 31122311	18 22424332	68 24322234
69 23311244	19 34334221	69 42321123	19 12332232	69 31242431
70 43132223	20 23432123	70 34222432	20 21323344	70 12322332
71 31223313	21 13211321	71 31124423	21 32112243	71 11133234
72 31332213	22 33112422	72 33421331	22 42122313	72 22434423
73 44233334	23 31121231	73 44243212	23 43324224	73 34434422
74 24313243	24 22244433	74 33113124	24 24244242	74 13244433
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76 43122321	26 33221342	76 12234424	26 33211343	76 33242244
77 23224234	27 34232134	77 13123213	27 13322423	77 43233223
78 22432234	28 12434312	78 23312432	28 12432132	78 12332421
79 33124313	29 42442213	79 44243212	29 43213443	79 43221211
80 12442211	30 22111243	80 23421332	30 13234434	80 12423321
81 21211234	31 31223221	81 23342242	31 23444331	81 42213242
82 32234321	32 42342333	82 23244333	32 22124324	82 31331221
83 13113223	33 32312113	83 21223134	33 23132243	83 33233243
84 43343342	34 11344221	84 42112231	34 33322122	84 32444221
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87 42131342	37 22442112	87 42133432	37 42333421	87 43442333
88 33244242	38 13231134	88 42243243	38 43133442	88 22342324
89 44244211	39 12432332	89 12132131	39 24423421	89 43232444
90 34224344	40 22211332	90 21322244	40 13134431	90 34332232
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93 43343221	43 22443342	93 12123131	43 22321334	93 31324344
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95 22444344	45 23423211	95 42321321	45 23332212	95 23222343
96 11311232	46 43422221	96 43421211	46 13443131	96 12234231
97 32332344	47 21344213	97 34321234	47 21233122	97 21323443
98 44332134	48 43421132	98 33244312	48 12233113	98 12244311
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00 42112422	50 42243113	00 21321313	50 11323224	00 34221332

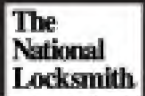


1-4000 NISSAN

Keyblanks:
 Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:
 1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

3501	3551	3601	3651	3701
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02 23311222	52 31232113	02 34423343	52 43333422	02 42432322
03 23424223	53 12123113	03 33132112	53 43233243	03 13322324
04 34331311	54 12344244	04 44211211	54 24443131	04 24334422
05 42433231	55 24344243	05 43322233	55 32434422	05 23422111
06 23423124	56 32331121	06 22113331	56 22134431	06 24342313
07 32123443	57 21344431	07 34322224	57 12311334	07 32242443
08 34421244	58 34321311	08 24221234	58 23233243	08 34231113
09 43423321	59 23121333	09 33422132	59 31134312	09 33224312
10 23312421	60 22331232	10 23244213	60 32123124	10 32112212
11 13224442	61 32442113	11 34311233	61 32231311	11 12132344
12 22312132	62 33324221	12 31213242	62 23112313	12 11233222
13 43242311	63 12342233	13 32421121	63 12113242	13 42112442
14 11223432	64 24224332	14 11313324	64 42124333	14 22312312
15 11132334	65 23123344	15 34331224	65 32321344	15 22321312
16 42342344	66 31222343	16 42231334	66 13322342	16 21121243
17 42333221	67 13123121	17 43122433	67 33233112	17 11242343
18 43113222	68 21113442	18 44431123	68 23311134	18 24333324
19 22213323	69 23434213	19 44233332	69 13332431	19 43121221
20 31321211	70 11224313	20 44342122	70 43231223	20 23343443
21 31311232	71 31242334	21 33242231	71 34342321	21 42224321
22 42422121	72 33244332	22 44234423	72 13423331	22 24244332
23 12124442	73 13132121	23 44221131	73 22233442	23 23332113
24 31222332	74 34433423	24 24434223	74 23231113	24 21342431
25 12232112	75 11224224	25 11234344	75 13132134	25 34213432
26 21321322	76 33122311	26 12223343	76 43231113	26 31244321
27 12332443	77 33312311	27 13243313	77 44423234	27 24332442
28 21113431	78 34231331	28 22423311	78 11243243	28 32432231
29 34321113	79 43112212	29 12113343	79 21312423	29 24423342
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31 21233221	81 44243131	31 32231223	81 43122231	31 22112233
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36 23344242	86 23444322	36 32134421	86 31123211	36 43123331
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43 42123321	93 34311231	43 13244422	93 43421321	43 23213322
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49 24422233	99 23342422	49 13311212	99 31133234	49 23331242
50 24244312	00 13242242	50 23331244	00 42324331	50 42311232



1-4000 NISSAN

Keyblanks:

Silca DAT13
 Taylor X123
 Ilco DA25

Code Machines:

1200 CM No. XF67
 Codemax No. 3 - 166
 DSD Page Ref. 3-7

3751	3801	3851	3901	3951
51 32442331	01 24332334	51 42132442	01 31344234	51 23343322
52 31131342	02 42323323	52 24423312	02 12313123	52 23313422
53 31223432	03 42243331	53 32332243	03 12432311	53 12422333
54 13113324	04 11132444	54 31112323	04 44233312	54 33223122
55 42231231	05 42212432	55 24231233	05 43113123	55 42224334
56 12132211	06 42113212	56 32321131	06 42332134	56 42442134
57 23124433	07 31224224	57 32342332	07 43134212	57 44311232
58 33232432	08 21332223	58 44233112	08 44431242	58 12432422
59 43442423	09 44432111	59 22134332	09 42133124	59 22342443
60 34431113	10 22112134	60 12342213	10 42232234	60 33443232
61 24323323	11 31232342	61 11231332	11 32243244	61 33212311
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63 22112244	13 42232331	63 24311212	13 32443222	63 11312221
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00 42133342	50 24432423	00 31222213	50 23121131	00 11312312

Shop Talk

Helpful Questions and Answers

Written by *all* of the following authors: Shirl Schamp, Don O'Shall, Robert Sieveking, Dave McOmie, Jack Roberts, and Dale Libby.

Send your locksmith questions, along with a self-addressed stamped envelope to: Shop Talk, The National Locksmith, 1533 Burgundy Pkwy., Streamwood, IL 60107.

Q: I find your Shop Talk section one of the most useful parts of your magazine and I learn a great deal from the questions you answer. I am enclosing two questions of my own and hope your answers help myself and others.

1) Has anyone found a nice way to remove the plugs which block the screw/bolts holes of the Schlage double cylinder deadbolt? I find it difficult to remove them without scratching the lock.

2) What is "the proper" follower for the Schlage "F" series entry set cylinder? I use a specially made follower given to me by a friend (it has a flat, round face with a very thin, curved protruding lip) but I have never seen one like it in my catalogs.

A: First, there is no nice and easy way to remove the screw plugs in the the Schlage double-cylinder deadbolt. The best tool to use is a very sharp ice pick. Possibly, you can pry out the plug

counterclockwise, carefully. I tap the screw to unscrew it at the edge of the bolt, and it will unscrew somewhat, so that sometimes you can get a sharp pair of diagonals to pop out the plug.

If the customer is one that will require the rekeying of the deadbolt in the future, or quite regularly (commercial account) then I never put the plugs in the screws. After removing these plugs for any customer, and telling them the extra charges incurred by having to take the time to remove them, they usually opt *not* to have them re-installed after the rekey job.

In answer to your second question, the proper follower for the Schlage "F" series entry lockset is any follower with a flat face of the proper diameter. Just

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turn the cylinder all the way right or left to the stop position, and slide the cylinder out *carefully*. It takes some practice, but once mastered, it is quite easy to do. The reverse is true for installing the core back into the cylinder housing. 07

Q: Why don't any manufacturers of "L" and "T" locking handles offer a service package of these handles that could be keyed and then put together. I know all about drilling a hole for the blind plug keeper and this is not the answer to the problem. Also none of the handles offered have dust shutters.

I have called and talked to three manufacturers about this item and they seem indifferent.

Leonard Stephens
Ohio

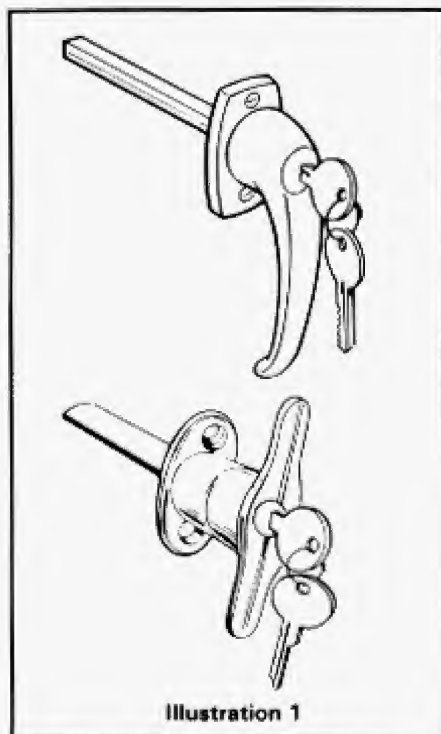


Illustration 1

A: Although I agree that a sub-assembled or easily disassembled "T" or "L" handle (see illustration 1) might be nice, it is not surprising that the manufacturers you spoke to seemed "indifferent." A seemingly minor change such as the one you suggest could easily cost them tens of thousands of dollars in re-tooling costs. And what do we offer them for this expense?

Will our customers buy more of them, and we stock more of them, because the customers like them better? Probably not. Will the customers willingly pay a higher price for the "improved" model? Probably not.

So instead, the manufacturers offer their product in both keyed alike versions and keyed different versions. Typically they offer 30 to 60 different combinations for the keyed different model, and three to ten different combinations to select from for the keyed alike groups. Unfortunately many wholesalers fail to stock more than one or two of these.

By using one of these keyed alike models, we can give the customer several to the same combination, and be relatively assured that if the customer needs additional handles in the future, they will be available to the same combination. So what advantage is there in being able to key them yourself?

Or if the ability to re-key them is of paramount importance, why not go to a pin tumbler version or better still a removable core or interchangeable core model?

As to the lack of dust shutters, over the years various manufacturers have offered these products with dust shutters. Unfortunately, these were neither especially popular nor particularly effective in protecting the handles against ravages of the elements. I am not aware of any being currently offered.

Instead, how about a rubber "boot" or cover to protect the handle almost completely? Although they may be available from other sources, the only one listed in my "fact file" is: ABC Lock Company, 846 S. 35th Ave., P.O. Box 6033, Omaha, Nebraska, 68105.

This is an inexpensive add-on product that is very effective in protecting the handles. 05

Q: What can I do to code cut keys if I don't have a code machine? The investment required to own a good code cutter is beyond what my present business will justify. Foreign automotive work is of special interest to me.

Fred Smith
New York

A: Though a special machine that will cut keys to dimension is a real advantage to the locksmith, it is not an absolute necessity and should not exclude you from code cutting keys. Accurate depth and space keys are available from most suppliers and are a common method of cutting keys to code. Another method that I have used with much success is the "Slip Coder." Illustration two illustrates this very simple tool.

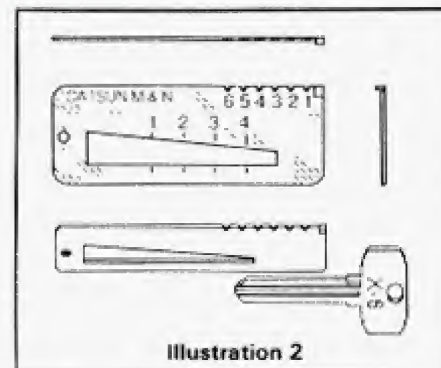


Illustration 2

The slip coder allows the locksmith to establish the proper spacing for the cuts and accurately gauge their depth. The tool is made from a piece of medium weight sheet metal. By holding the key against the shoulder stop in the upper right hand corner of the tool, and using the notches in the top of the gauge, the cut locations (spacing) can be marked on the key blank with an impression file.

Once the cut locations have been established, the cuts are hand filed to depth, using the slip gauge to measure the proper depth. The slip gauge is calibrated to measure root depth. (That is the distance from the uncut side of the key to the bottom of the cut.) If you are impressing a key, this little tool will help you to locate the cuts and allow you to accurately determine their proper depths.

Use number stamps to mark the cuts and depths appropriately. Code cutting with a hand file and slip gauge is not a new concept, but it is a handy trick that will allow you to cut keys to dimension using only a hand file. A craftsman is not known by the tools he uses, but by the way he uses the tools he has. 06

Q: Photograph three and four are of a "Wells Fargo Strong Box," according to the owner. I would appreciate any information you can give me on it—especially information about the lock.

I could gain entrance quite easily but I want the least possible damage. I removed as much rust as possible from around the lid. The flat steel blank goes into the lock 1 1/2". The lock appears to be all brass (the top side for sure).

Thanks for any help you can give.

Peter Goodrich
New York

A: Peter, I believe your "strong box" has a large Adams Lapriss 6-lever key-lock. The drill point to drill and pick is



9. Two views of a...



10...Wells Fargo Strong box.

$\frac{3}{8}$ " up, $\frac{3}{4}$ " left of key center. If all else fails, as a last resort you can punch the lockbolt at $2\frac{3}{4}$ " left of key center. Be advised, however, that there will likely be a strap around the back of the lock which will make it a little punch-resistant. My choice would be to drill and pick.

Letters

Continued from page 8

they do not have to sell direct to stay in business. If that catalog would not have been in the wrong hands the distributor would have sold the panic bars to the locksmith. The locksmith would have made his money from the customer. The customer would be happy because he had obtained a professionally installed locking system and everyone would be happy. This would be a much better situation for all.

Clayton Guidry
Louisiana

Editor's Note: You do make some good points. But the readers should know that many distributors do not do this. Some feel nothing is wrong with bidding on a large commercial sale.

U. Change

Continued from page 29

position, the old key can be removed, and the new key inserted.

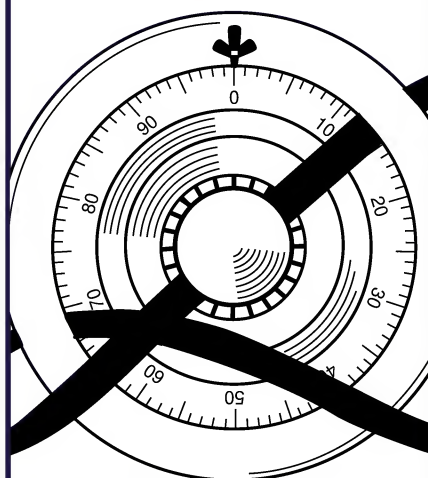
Once the new key is inserted, the movable bottom pins with grooves will seek the correct level. When the changing tool is removed, all the "T" plungers will go into the bottom pins and secure the movable bottom pins at the new level. When the core is turned back to the neutral position, and the key has been removed, the cylinder is changed.

If either the change key or the new key is not fully inserted, then the last or fifth pin will seek the wrong level and be set on a too deep position. Now, if the customer brings you the cylinder, you can shim the window opening from either the front or the back. Shimming from the back will require you to remove the tailpiece to allow you access to the opening window.

Special note: The screws used to hold the tailpiece on are very short. (See photograph 4.) Do not replace the screw over the opening window with a longer screw, as this will interfere with the changing process. The longer screw will block the insertion of the changing tool fully.

This method will help you service the U-Change lock cylinder whenever a manager or employee messes up in changing the non-locksmith oriented locks. ■

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